

1899

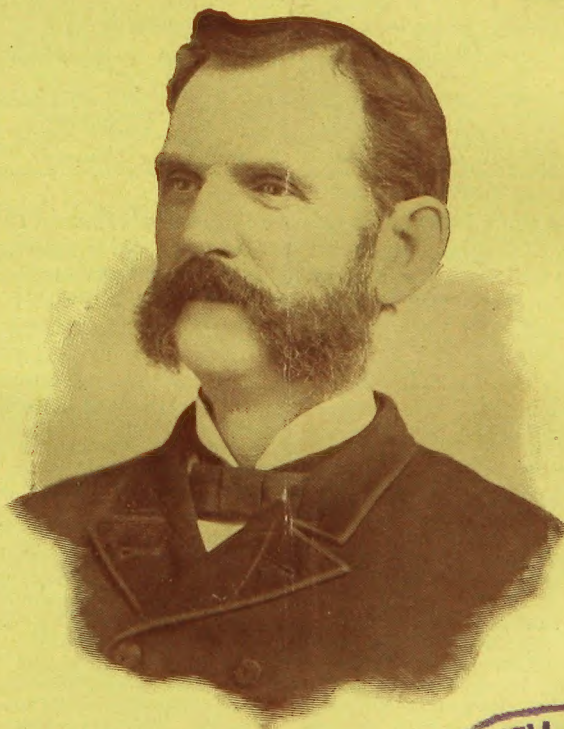
R. M. **K**ELLOGG'S

# GREAT CROPS ...OF SMALL FRUITS

## HOW TO GROW THEM

1899

...A...  
TEXT BOOK  
FOR  
PROGRESSIVE  
FRUIT  
GROWERS



1899

The  
Largest Crops  
The  
Finest Fruit  
The  
Least Labor.



TREATISE ON PLANT LIFE AND THE LAWS WHICH GOVERN  
THE DEVELOPMENT OF FRUIT

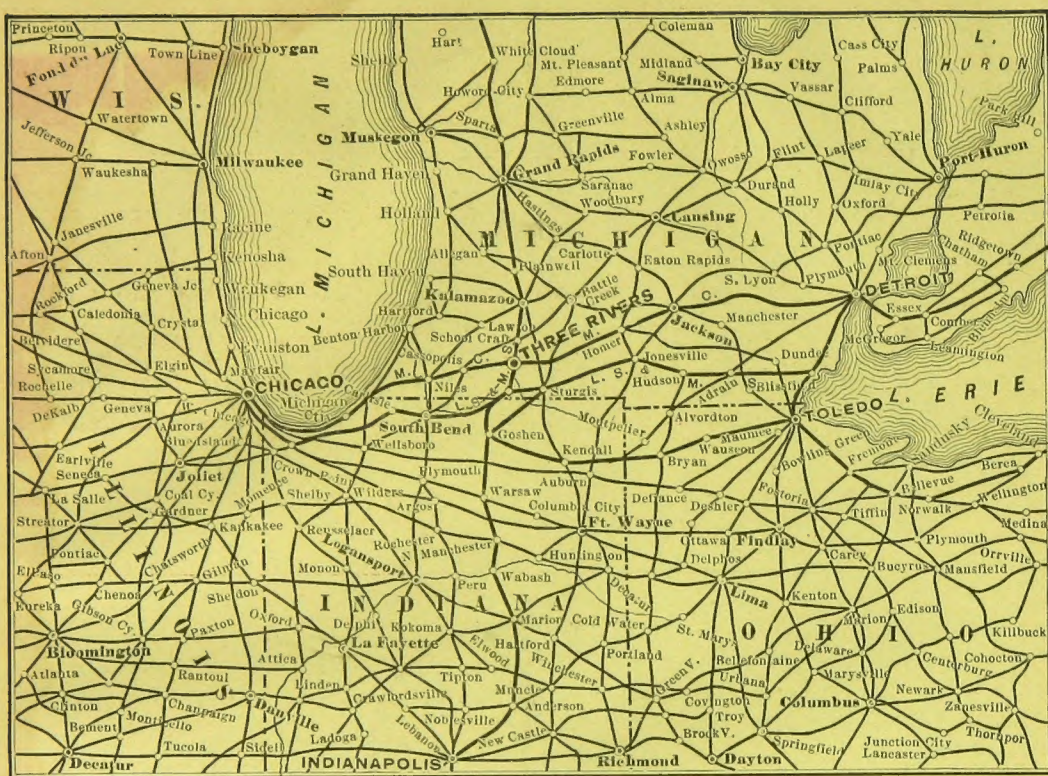


## THREE RIVERS, MICHIGAN

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ST. JOSEPH, MICH.

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**THIS MAP** shows our location in the Michigan Fruit Belt on two great railroad systems with several fast through express and freight trains daily delivering freight the same night it leaves here in Chicago, Toledo, Indianapolis and Detroit where plants are sent in fast through freights to St. Louis, Kansas City, Omaha, St. Paul, Cincinnati, Cleveland, Buffalo, and all intermediate points making fast time and close connections with all roads leading from those points. Place your large orders early so that plants can be sent by freight while dormant. They will make fast time, as perishable goods are given preference over all other freight. We have arranged for through bills of lading and special low freight rates to all these cities.

### Why This Book Was Written

The object of writing this book is to give fruit growers an insight into plant life and some valuable points on the laws of nature which govern the development of fruit.

It is an admitted fact that nine tenths of fruit growers are furnishing land and expending their labor on plants partly or wholly impotent and cannot be made to produce the largest crops of berries by any system of cultivation that can be adopted, thereby robbing the growers of the profits of their labor.

There is a wide distinction between "Plant Breeding" as defined in these pages and "Propagation." The former is the manipulation of plants with the definite object of improving varieties by continuously selecting ideal plants and discarding weaklings and building up a strong fruiting vigor by restriction so they will use their energies in fruit development and not in useless runners.

Propagation as practiced by nurserymen is the mere multiplication of plants on the theory that

one plant is just as good as another, and that the pedigree or previous history of a plant is wholly unimportant.

This farm was selected as being ideal for this purpose and all facilities, including irrigation, have been provided which would aid in producing the most perfect plants and deliver them to customers in the best possible condition.

The Experimental and Testing Grounds are the most extensive in the country and will contain all the leading varieties of small fruits grown in this latitude. Visitors are cordially welcomed and entertained during their stay free of charge. They are furnished a guide to conduct them through the grounds, generally the proprietor or superintendent who will explain all the methods employed. It will richly repay any fruit grower to visit these grounds and study modern methods of fruit growing.

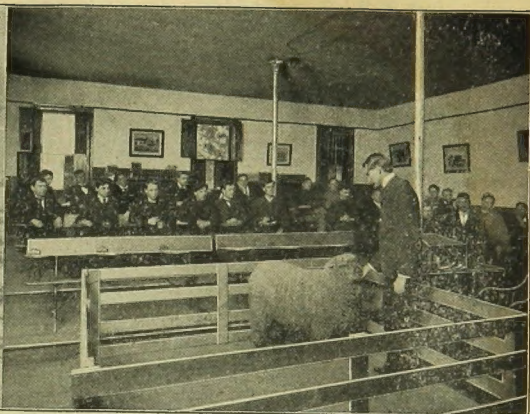
Three Rivers is noted as the most beautiful in Michigan. It has extensive elegant residences and beautiful scenery. The people are full of hustle and enterprise.

N. B.—The title and contents of the various editions of this pamphlet have been fully copyrighted. No person will be held responsible for taking extracts in making up their catalogues, or others in preparing papers for horticultural meetings.





R. M. Kellogg searching for the ideal plant and bud variations with a view of improving the variety.



The Professor at the Agricultural College teaching a class how to select animals to improve the breed.

Like begets like whether in breeding plants or animals.

A scrub never beget a thoroughbred plant or animal

Selection and restriction is the basis of all improvement.

The pedigree of a plant is the history of its breeding and determines its value for bearing fruit.

## MONEY IN SMALL FRUITS.

Few growers of small fruits who follow the usual methods have any conception of the possibilities of the strawberry plant when built up in fruiting stamina by selection and restriction and made to throw its energies into the development of fruit instead of useless runners.

The life germ in the plant is identical with that in the animal. Plants are male and female and have perfect sexual organs with every named part found in the animal. Fecundation takes place between plants and they have the same intense passion for breeding and if not restrained bear themselves into impotency or inability to fruit.

The seeds are the eggs of the plant and the

fruit or flesh grows only as a receptacle for the seeds to develop in, and wherever there are no seeds there will be no fruit, and the size, color and flavor of the berry as well as the general stamina of the plant will be governed by the vigor of the sexual organs.

Pollen exhaustion is the chief cause of unfruitfulness in plants, and in an animal would be called seminal weakness. The offspring of an animal seminally weak is always scrubby and in every way inferior, and plants are

by excessive fruiting or seed be made to produce fine, larger of tillage. When a plant we say "it has run out."

You can increase the foliage of an impotent plant and make it throw out a great mass of runners by liberal applications of manure and high cultivation but that will not materially increase the amount of fruit.

A strawberry plant which is sexually vigorous will throw its energies into multiplying its species by seeds and consequent fruit flesh and will impart to it every good quality but will make comparatively few runners, and is better able to withstand unfavorable climatic conditions.

Strawberry plants, weak in seed production, generally bloom full but many of them fail to set fruit and the berries are full of hard knots and much deformed. While the foliage of such plants may be rank the fruit rarely attains the full size of the variety and is always deficient in quality.

There are many degrees of this impotency. If the plant is partly affected it will only develop its fruit to a medium size and occasionally one berry will take the entire strength of the plant and grow to full size, but those more seriously affected will be entirely barren and the fruit of the whole field will be very uneven and a large part of the berries are lost as they are too small to market. This is the condition of the plants on the grounds of a large majority of the fruit growers of the country.

Not one in a thousand has paid any attention to the pedigree of the plants he cultivates, or understands why his plants do not produce fine fruit after giving them so much manuring and careful cultivation. He gets plenty of leaves and runners but only a little fruit and that of poor quality.

The remedy is to start your spring setting with plants free from this weakness and then propagate them as explained in the article on "The Propagating Bed." It does not follow that the seeds must be large to secure the highest development in fruit; on the contrary they are much smaller in fruit grown on the thoroughbred plants because



PREPARED BY A. B. MORSE & CO. ST. JOSEPH, MO.





OUR HOME—The Product of a Strawberry Patch

the foundation of fruit flesh is much more rapid where the life germ in the seed is in full vitality.

The seeds in a large strawberry are no larger than in a small berry and no greater in number, but when planted quickly germinate and make a rapid growth while the seeds from a small berry, are slow to start and make a feeble growth, and many fail to grow because the life germ is weak.

An objection is sometimes made to this theory on the ground that some fruits have no seed, such as bananas, navel oranges, etc., but these are only

A small crop of small berries, lacking in flavor, color and texture, which must be sold at the buyer's price, is neither profitable nor pleasant.

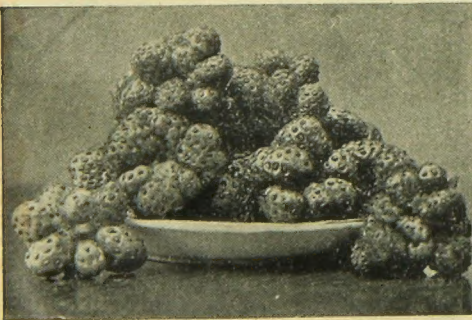
A big crop of big berries that sell at sight at a big price to regular customers is always both profitable and pleasant; which of these you will have depends largely on your knowledge of plant life and the laws which govern the development of fruit.

## THE PEDIGREE.

The pedigree of an animal or plant is the history of its breeding or propagation. If the history shows the line of ancestors to have been scrubs, they are classed as mongrels. Among stock breeders, "Pedigree" is a term used to denote systematic breeding for a definite purpose, not only in keeping the breed pure in blood, but making them to produce in the offspring certain desired characteristics so they will be an improvement on the parents.

A few years ago stock breeding became unprofitable, and breeders being generally in debt they sold their thoroughbred animals for what they would bring. All at once there was a great shortage in beef and the demand being great the western feeders rushed for the rough, native cattle of the plains. They soon found that it took double the feed to fatten these mongrels that it did their thoroughbred animals; they would make bone but not flesh, and the miserable, tough meat thrown on the market greatly diminished the value of beef. People could not eat it.

The large profits in small fruit have led people without practical knowledge of the fact to secure mongrel plants which have produced fruit of high quality by indifferent cultivation and the great cities and the larger towns with fruit so poor, people would

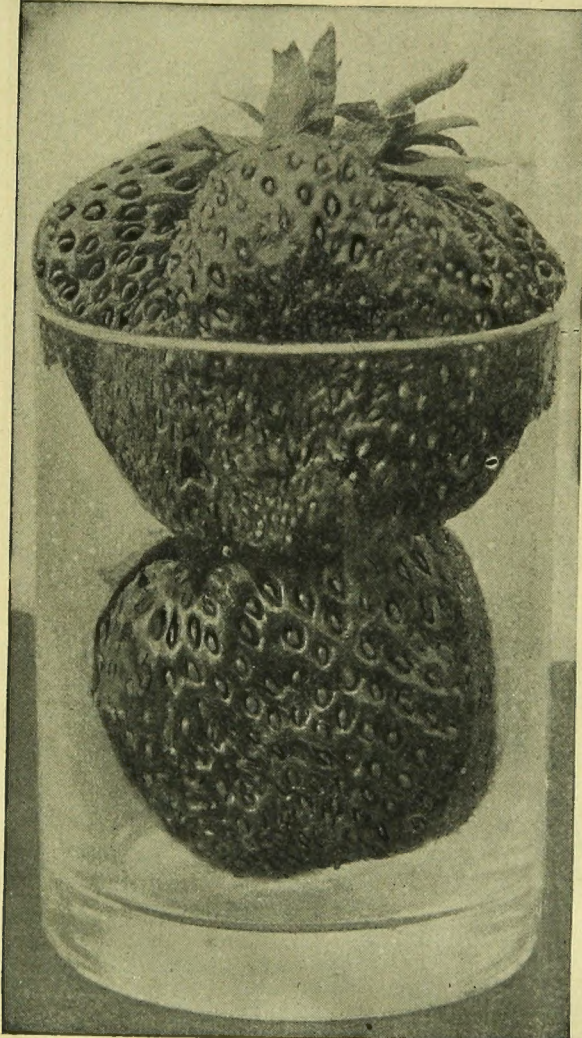


Undeveloped Strawberries, Showing Lack of Potency in Pollen

freaks of nature. No one ever saw a large, luscious strawberry without seeds; the same is true of apples, plums, and peaches.

The best variety of any kind of fruit is the one which, in producing its seeds, develops the most fruit flesh and imparts to it the desired flavor, color and texture. This is the reason so many seedlings are discarded as worthless and why promising sorts disappear. They lose their tendency to form fruit by bad propagation.





A glass of berries photographed, exact size. The illustrations are photo-engraved from the original berries, expressly for this work.

The Marshall  
The Bismark

small quantities thus making a great demand for strictly fancy fruit.

Plants differ from animals in this: the animal contains only one life germ or plasm. If you cut off a leg or arm of an animal, there being no separate life germ in them, they cannot be made to live; in other words, you cannot cut an animal into pieces and make several animals of it because its life germ cannot be divided.

A plant or tree is a single individual and yet it contains a whole colony of lives. It has the life of its own life germ and send it into its branches, and it remains dormant until excited into active operation by conditions, such as making cuttings, runners, etc.

Plants propagated have only one parent and the fruit closely resembling the parent. This is called true breeding, whether they are taken by cuttings or without the aid of the

All plants propagated by seeds—or sexually—have two parents and may take a greater or less impress from either or from some remote ancestor and bear fruit differing widely from the tree or plant from which the seeds are taken, and therefore when we discover a valuable variety we multiply it by runners, cuttings, etc., so it will bear fruit as nearly resembling the parent as possible.

When a plant becomes exhausted in seed bearing it multiplies its species by sending out runners or breeding asexually as above explained, and this is the reason there are so many runners and so little fruit in the average berry field.

## BUD VARIATION.

While it is true that all plants and trees propagated by runners, cuttings or grafts are the children of one parent and receive only one parental impress and therefore bear fruit very closely resembling the parent, yet there is always a difference and these variations are often so great as to constitute an entire new sort. These are known as bud varieties.

No two blades of grass ever grew and no two things were ever made which were exactly alike. Variation is one of the great laws of nature.

We frequently find a limb on a tree with general appearance and fruit differing from all the rest and we can take scions from this branch and they will retain the same characteristics, and thus be entitled to a new name.

Nurserymen continue to propagate trees by taking scions from nursery rows year after year, never allowing them to bear fruit, and so our latter day orchards have many trees of the same variety bearing fruit differing widely from each other and these are directly attributable to bud variations. There is no question but this long continued propagation from non-bearing trees in the nursery rows is the main cause of unfruitfulness in orchards.

Strawberries, Raspberries and Blackberries vary in the same way. We can fix our ideal of the plant and berry we wish to produce and then go into the field and find one varying in the direction of our ideal and take

runners from it and put in a special propagating bed, keeping them under restriction to prevent exhaustion, and next year take plants for setting from these and again select the ideal plant and so gradually build up a strain of plants to the greatest perfection.

It is idle to say that one plant is just as good as another or that a berry field taken entirely from plants propagated in this way will not produce much more and better fruit than plants not kept under restriction and propagated from anything and everything, or that plants propagated on low ground will not run out or lose their tendency to bear fruit, hence we see how important it is that the fruit grower should know the pedigree or history of the plants he is growing and depending on for financial returns.

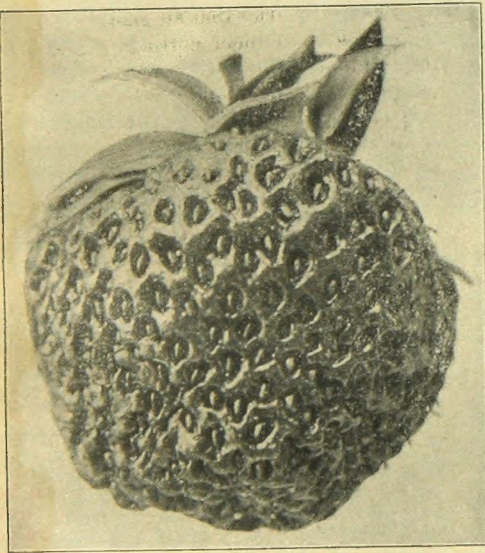
The man who cultivates mongrel plants can stand no chance on the market with one whose plants are thoroughbred and capable of producing the finest fruit.



## THE PROPAGATING BED.

The Propagating Bed when stocked with pedigree plants is the fruit growers' gold mine from which he can dig more profits than from any other spot on the farm.

The Common Practice of taking "titman" or alley plants from along side the full matted row is very bad. These are the last to set in the fall and as fruit buds do not form until after the plants take root, they go through the year without setting fruit and thereby lose to a considerable extent the habit of making fruit buds. The roots do not have time to mature and become woody but are mere strings, soft and green and it is very difficult to transplant them so they will live.



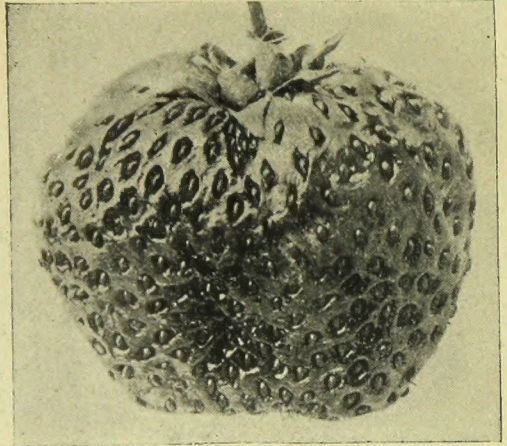
The Sample

You often wonder why your plants die when you take them up from the side of the row on your own grounds and set them out with great care. Remember the cause is immature roots; so you see the absolute necessity of having a propagating bed and growing your plants by themselves, and taking up the whole row using only those of mature roots and well developed buds and throwing away the grade of plants you have been using.

Select a sand loam on high ground and make it mellow with barnyard manure thoroughly mixed with the soil by plowing and repeated harrowing and cultivating.

Set plants in rows four feet apart and twenty-four inches apart in the row. Pedigree Plants being trained to develop fruit buds make comparatively few runners, so unless there are frequent rains so as to keep the surface soil quite wet you will need to layer them as fast as they appear by putting a little stone or some earth just back of the first runner leaf which will cause them to root at once. Spread the runners out in all directions so that the crowns will have plenty of light and room to grow. The tendency to form fruit buds must be encouraged, and they must not be allowed to mat thickly.

Never select low ground for a propagating bed because the plants become viney and cover the



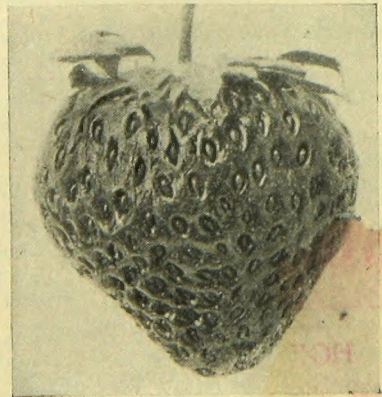
The Wm. Belt

ground with weak, spindling plants. Such land may be profitable for the cheap plant nurseryman but you want fruit and will not get it on plants grown in that way. Their tendency to be "viney" and make only runners is inherited and becomes a part of their nature. As soon as the ground freezes, mulch with clean straw quite thickly. This not only prevents injury to the roots by heaving caused by frequent freezing and thawing but it keeps the plants dormant in the spring, giving you time to fit the ground and set them before they start to grow.

## A TEST.

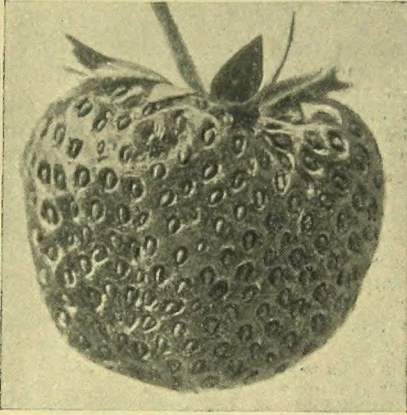
Take a Pedigree Plant and set by the side of a common mongrel plant, and give both high culture. Notice that the Pedigree Plant throws out strong runners and its crowns form rapidly, while the mongrel plant will throw its whole strength into making a profusion of runners, and in the fall the mother plant will have few or no extra crowns and the runners will have few double crowns. The following season the difference in the berries will be very marked, both in size and quality.

This Experiment we have tried time and again, with the same results. The vigor of the plants set makes the difference between big crops with large profits and little crops and no profits.



Gandy





Aroma

### AN IMPORTANT QUESTION.

The question sometimes arises whether a "Pedigree Plant," with its high breeding and culture, will succeed on ordinary land with common cultivation, as well as common plants?

We might answer this question by asking another. Would a perfectly sound horse, which had been bred up carefully from the days of his coltship, be as valuable and pull as large a load as a broken-winded, ring-boned and spavined stager? Pedigree Plants, being possessed of a strong constitutional vigor, will adapt themselves to changed conditions much better than scrub plants.

Climatic conditions will always be a factor in fruit growing and may defeat the best laid plans, but since I commenced breeding up plants sixteen years ago I have never lost a crop nor had an unprofitable season.

### BEAUTIFUL BERRIES.

The most beautiful berries are true to type, above medium and all of the same size. That is the advantage of Pedigree Plants. Their vigor enables them to bring their berries to the full size of their variety. Some excessively large berries are needed for advertising purposes to get people to talking about you, but the average family prefers above medium in size, good texture, and rich flavor, hence the successful grower plants most largely of the medium sized varieties, and then gives careful culture to make them all grow large. These are the money-makers.

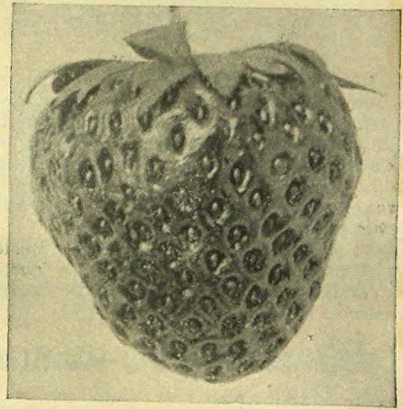


### HOW TO SELL FRUIT.

Never give the market a thought until the berries are ready, but spend your time growing

such a grade of fruit that customers will wait for your coming. You will not have to run around to drum up trade.

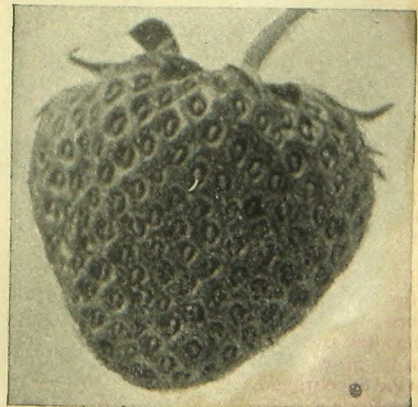
If your fruit is right you will not have any trouble in arranging with the leading dealer to handle all you have. Get a neat circular letter printed describing your berries and have one left with every family who is a customer of your dealer, telling them where they can be had. Have notices put in the papers to the same effect. Our "squib" is generally one line: "To be happy eat Kellogg's berries," sold at "Wilson's." Put this in the paper in a dozen places. Of course it costs a little, but it sets everybody to thinking of you, and the extra price and ready sale meets all the bills, and you are ahead in the end. The mere fact that this will bring the dealer a large amount of extra trade will make him glad to pay you all there is in it to secure the agency.



Sunnyside

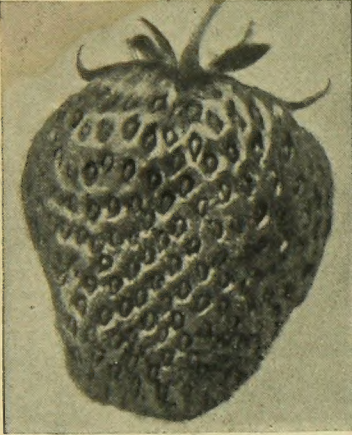
Pack your fruit honestly in a nice clean box and don't forget to put some big berries in the bottom. The people will find them and give you a good deal of credit. If you ship to a distant city secure a reliable dealer in the same way and have a neat stencil or label which shall act as a trademark so that people will become accustomed to it and insist on having your brand.

You will have no occasion to make consignments to a commission house but will be put to your wits' end to get enough fruit to supply regular customers.



Clyde





Crescent

If you are so unfortunate as to have common fruit, do as the other fellow does; sell it for what it will bring but never put your name on it so that people shall find out that it came from your establishment. A good reputation is a splendid stock in trade. It gives you the advantage on the market and causes people to pass by the other growers and patronize you.

Have a neat letter head and bill head to use when you have occasion to write a customer or present a bill. Take pride in your business and do business in a business-like way.

## SELL DIRECT TO FAMILIES.

I have made most money selling direct to private families. I never failed to secure for customers nearly every family on all the principal streets. Other growers would tag around after me and offer my customers their berries for two or three cents less per quart but I paid no attention to them.

Always insist on a fair price and back it up by a comparison of values and you will have no trouble in getting and holding customers. Be firm and courteous under all circumstances; don't get angry, if they do quit you, but express your regrets and leave them in a mood in which they can come back without prejudice. It costs nothing

and it is pleasant to be known as a gentleman with whom everybody likes to deal. Don't cut prices, but look up new customers if you have a surplus of fruit. Don't peddle indiscriminately from house to house but have regular customers whom you supply daily.

Furnish each Family with a ticket printed on manila card board, about three inches wide and eight inches long, to be hung in a convenient place by the kitchen door where it can be found without delay. This prevents all bickering and dispute about price of berries purchased. It saves making change and loss of sales because ladies do not always have change. It suits the "man of the house" because it furnishes a voucher as to correctness of bill. The family will buy double the fruit when this ticket is used and it assists in holding the customer. Insist on pay every week except when bill is to be presented at the store or office of customer at close of season.

The following is the form of the ticket :

DON'T FORGET TO BRING THIS CARD.

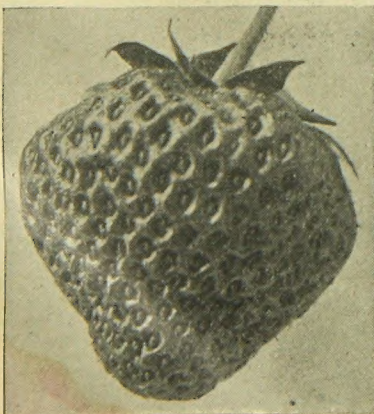
### TIME IS PRECIOUS.

When you hear our bell ring, kindly HAVE THIS CARD READY AND BE AT THE DOOR, so we can make the proper entry and deliver the fruit with as little delay as possible. Payment expected every Monday.

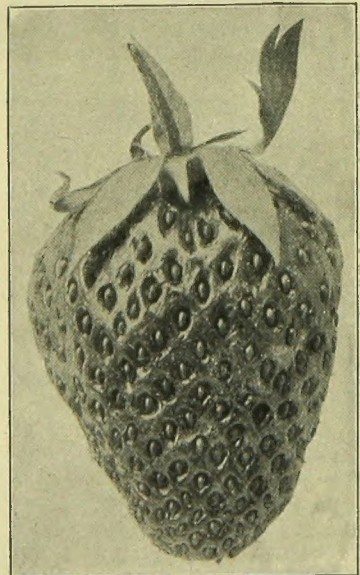
M

In Account with R. M. KELLOGG.

| Date. | Quarts Wanted. | KIND. | Dr. | Cr. |
|-------|----------------|-------|-----|-----|
|       |                |       |     |     |



Brunette



Warfield

When I commenced selling berries in this way my customers took one or two quarts the first day; but very soon increased to three or four quarts and often more. The berries were so large and delicious they not only insisted on having them at every meal but the dishes had to be re-filled and this made the quarts disappear very fast.



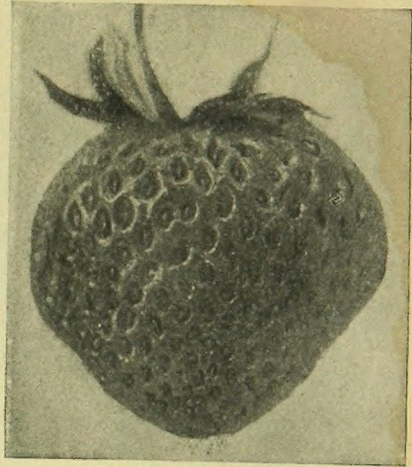
**Insist on a good price for fancy fruit and you will always get it.** You will rarely or never lose a customer but you will keep on getting more patronage as the quality of your fruit becomes known. Nine tenths of the people will buy the best fruit they can get, and a reasonably high price cuts no figure if they can only know where to get a regular supply. Any groceryman will tell you he always sells his fancy fruit first and the low grades last.

**The word goes from one family to another** and to their friends in distant towns, where families will club together and have several bushels shipped daily by express and divide them among themselves. I have always had a large trade of this kind.

When selling one kind of fruit, engage the next coming on, so as to have everything sold in advance. You will soon find all your time occupied in selling fruit and directing work, and you can hire the drudgery done by people of less enterprise.

**Pay your men good wages,** so they will prize their place, but let them understand that everything depends on first-class, careful work. When they see the drones being weeded out they will take the hint; and don't forget the worst use you can make of a man is to quarrel with him and call him hard names. Just say to him kindly that his services are no longer needed, and let him go.

**A neat personal appearance is a good stock in trade.** Wear a good business suit and keep your shoes blacked, and be in condition to approach a wealthy family and make a good impression, and never offer a customer berries in an old dirty box. Keep your wagon as neat and attractive as possible.

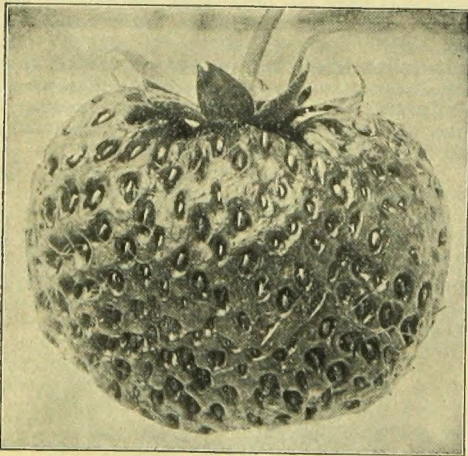


Cobden Queen

**Conditions are now changed.** General farming pays better and these profitless berry fields now over-run with weeds are being plowed under so the coming spring will see fewer berry fields than ever before. The market has never been supplied with fancy fruit and prices for it have been and always will be good, and the man who goes into berry growing and follows the methods pointed out in this book will find a ready market and a neat, clean and profitable business.

## THE FRUIT GARDEN.

I pity the mother of a family who has to prepare 1095 meals every year with resources limited to the pork barrel, potato bin, and bread tray. If she could only step into a fruit garden and find an abundance of asparagus for April and May, delicious strawberries for the next month, and then raspberries, blackberries and grapes in succession until frost comes, giving a feast all summer long, with canned fruits in abundance for the long winter months, the whole question of what to get for a meal would be solved.



Manwell

## LOW PRICES FOR FRUIT.

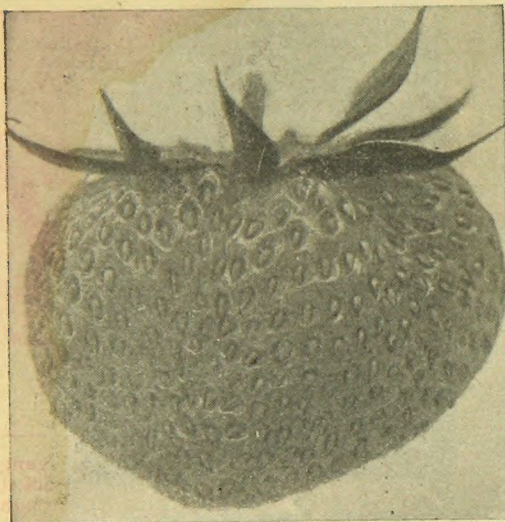
The low prices for fruit the past two years can easily be accounted for. For several years past general farming has scarcely paid expenses while berry growing has been very profitable and farmers rushed into it without any knowledge of plant life and its requirements.

Nine-tenths of them went to some old exhausted bad or to the cheap, low land plant growers for their stock and then gave it only indifferent cultivation, resulting in a large amount of poor fruit being thrown on the market, and while it sold cheap yet for want of quality people ate very little of it and so prices ruled very low especially in the large cities.



Bubach





Brandywine

The way to the husband's affections and that of the children is right down through the stomach. Fruit eaters are always good natured. A fruit diet during hot weather means a clear head and strong body. The rich fruit acids cool the blood and are the great panacea for aches, pains and the "blues." It saves "family jars," doctors' bills, and enables a person to accomplish more work. It will keep the boys and girls contented at home. They see all these nice things in the town and forget they are products of the farm. Nothing adds so much to home life as a fruit garden.

A small plat of ground, a few strong fruiting Pedigree Plants of early, medium and late varieties, a little delightful recreation in the cool of the evening in caring for them and the pleasure is yours. To enjoy them you must see them growing. To see the great beauties begin to turn red and peep out from under the foliage so coquettishly is a great treat.

"Buy them cheaper?" Let us see about that. You furnish the land and manure and I can buy the plants and do all the work, paying regular wages and have all the berries ready to pick for much less than one cent per quart throughout the season. They will be at your door. No going without because you have no time to go after them. No expense for boxes except what the children need to pick and take to town to buy their school books with. A berry garden will furnish the family more real luxury than you can buy with several acres of wheat. Give it a start this spring.

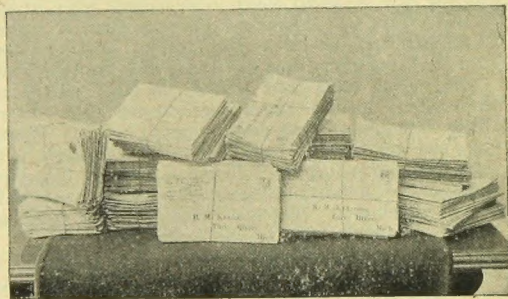
Farm for sale. The way to sell a farm is to make the would-be purchaser feel that he would like to own it. A display of fruits will contribute more to that end than any other one thing. The cost is trifling compared with inducements to purchase.

### ANSWERING QUESTIONS.

I cordially invite correspondence with all fruit growers and will take pleasure in giving them the benefit of my experience whenever it will be of service to them.

My Success depends on your success, and I am especially anxious that growers stocking their grounds with my Pedigree Plants shall do things at the right time and in the right way

Among the opportunities I have for keeping in touch with the most progressive fruit growers of the day, I may be permitted to mention that I have a complete up-to-date horticultural library, am a subscriber and a contributor to all leading horticultural papers, have long been identified with the Michigan State Horticultural Society and am at present a member of its executive board, and President of the West Michigan Horticultural Society, which covers the most extensive fruit section in America. I am also an honorary member of five State Horticultural Societies, before which I have delivered lectures. I am regularly employed by the Michigan State Board of Agriculture to deliver lectures, conduct institutes and lead discussions in fruit centers.

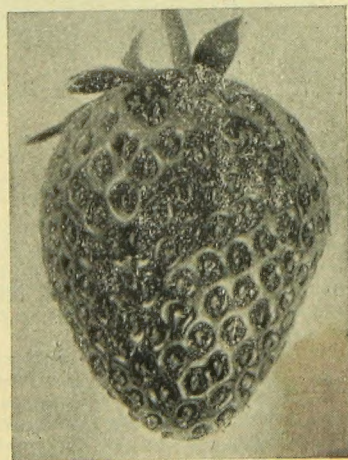


Photograph of One Day's Mail

My large correspondence gives me practically an experiment station in every community in the country. They tell me of their methods of work, of the varieties they have tried and results obtained. With all these sources of reliable information I believe I can be of service to not only the commercial grower but to persons growing fruit for their own table. Write me at any time, giving particulars, and I shall be able to give you some valuable pointers.

### IRRIGATION.

While I have grown the largest crops ever produced without irrigation by maintaining the dust mulch as explained on page 14, yet if facilities for irrigation can be secured, it will well repay a reasonable outlay.



Lovett





### We Are Proud of Our Employees

There is not a careless person among them but each one is an expert in the particular work assigned him.

Our plant consists of a centrifugal pump made by the Morris Machine Works, of Baldwinsville, New York, which is the cheapest and most durable pump made for the purpose. Its maximum capacity is 1400 gallons per minute. A twenty-five horse-power gasoline engine, made by Olds & Son, Lansing, Mich., furnishes the power. It needs only to be started and stopped and does its work perfectly, and is the most perfect gasoline engine yet invented. The water is sent up the river bluffs through an iron pipe to the farm where hydrants are conveniently located and to these are attached a ten-inch hose made of heavy duck canvass which conducts the water to the sluice boxes as seen in the engraving on the back cover of this book. The sluice boxes are made of three boards twelve inches wide and sixteen feet long and fit together so as to make a continuous trough with gates at the ends so the water can be stopped at any point. Small ditches are made between the rows by a large tooth on the cultivator and water is let into these by openings on the sides of the boxes, the flow being regulated by a slide.

No flooding is done, but the water soaks down in the ditch and percolates out under the plants and then rises by capillary attraction to the roots. The surface is then cultivated as soon as the ground is dry enough. In this way our plants root as quick as formed and are kept growing naturally during the most protracted drouth and in the fall the roots are perfectly ripened and are in prime shape for shipment the next spring.

Irrigation is especially valuable to the grower of Pedigree Plants because they make runners sparingly as compared with common plants, and without these conditions they could not be furnished at the prices named in this catalog. If you contemplate doing anything in irrigation, I shall be glad to give you the benefit of my experience in fitting up your plant.

### OUR EMPLOYEES.

Our employees constitute quite a little army. They are divided into gangs and every person fits into his place, is assigned his special work and is held responsible for doing it correctly.

They are paid good wages and prize their places but they know they will be promptly dismissed if caught napping. Every fourth man is a foreman and every division has an overseer, with a head superintendent over all. No boys or careless men are employed.

Each foreman is held responsible for the gang under his charge by being required to sign a ticket on every package of plants which comes through his hands so a mistake can be readily traced to the right party and great accuracy is secured.

### CHEAP PLANTS.

( \$1.25 to \$2.00 per 1000. )

Strawberry plants have been widely advertised at these prices and it may be well to point out how they are grown. The large expense of advertising in newspapers, sending out catalogues, digging, counting and packing the plants will convince you that when sold at this price they must be grown at a very small expense.

They select low ground, generally on the border of a marsh or lake, and set the plants near together for the purpose of getting as many runners as possible. They throw out large numbers of runners and become viney and soon cover the ground with a dense mass, or they sometimes take high land and narrow the rows to a hedge in digging and pick what berries they produce the first season, and in the fall the ground is covered with plants, and thus they go on digging plants and picking what fruit they bear from year to year without re-setting.



Greenville





Here are the Men to Dig them, but where are the Plants ?

These plants are raked out with potato hooks, counted by boys and often packed in the field or open shed, exposed to wind and sun and with little or no moss to protect their roots.

All such plants run to vines and the more manure and cultivation you give them the more runners you will get with but little increase in fruit.

The saddest phase of this business is that these parties are sending out catalogs representing them to be first-class plants grown by experts. The facts are that the price charged for them would not pay for growing pedigree plants to say nothing of digging and packing them. It is always safe to be suspicious when a person offers to do so much for so little.

Nothing is truly cheap which consumes your labor and use of land as these "cheap" plants will do and then gives you no returns. You could not afford to use them if furnished free of charge.

## DIGGING THE PLANTS.

Here are the men but where are the plants. They are all there under a nice covering of straw which was spread over all our propagating beds last fall. We never winter any plants in cellars.

When digging, the plants are carefully lifted by inserting the fork from the front under the roots so the crowns cannot be bruised or roots broken. They are instantly picked up and put in a wet bag, so they are never exposed to sun and wind and the bag is carefully labelled and sent immediately to the packing house where they are cleaned, counted, tied in bunches, labelled and the orders are made up.

The entire row is taken up and all old plants and any with immature roots are thrown out. Only perfect plants are sent to customers.



Enhance



The Michigan





**A Perfectly Equipped Packing House**

No plant exposed. No plant neglected. Perfect discipline and training in employees, with perfect facilities, gets plants to customers in perfect condition.

## THE PACKING HOUSE.

Our packing house was planned and built to give the very best facilities for making up orders, packing plants and getting them to purchasers in the most perfect condition. It is 42x100 feet and each variety has its own separate stall where the plants are counted and tied in bunches and labeled, so it is impossible to mix varieties.

The atmosphere of the room is kept cold and damp by the floor being saturated with water so that in the short time used in counting plants and making up orders the roots never show the slightest dryness. The crates for packing are made of tough, light wood, after our own design so that leaves are exposed to air while the roots are imbedded in pure, damp sphagnum moss and grow while on their way to their destination and arrive at any point between the Atlantic and Pacific Oceans in perfect condition.

Our men have become experts in packing and each department is under an experienced foreman and all under an efficient superintendent of many years' experience, so that all orders are filled with the utmost precision. It is absolutely impossible to dig and pack plants in the open field, exposed to sun and wind, as is very generally done by plant growers, and have them reach the purchaser fresh and vigorous. You want every plant to grow and have no vacancy in the field and there will be none with these plants if you set them properly.

## PLANTS FOR THE SOUTH.

All of the leading truck and berry growers in the south use only northern grown seeds and plants for the reason that the northern summers are very short and hot and they acquire the habit of ripen-

ing their fruit several days earlier than the same variety propagated at the south.

The new runners will retain these characteristics for three or four years so that southern planters can get the benefit of this and propagate their own plants for that length of time and then renew their propagating beds with northern plants and thus be in the market several days in advance and secure the high prices, making a big difference in profits with very little extra expense.

The spring at the north being later than the south, plants remain entirely dormant that much longer and will endure shipment and transplanting in this condition with perfect safety and when put in the warm soil will spring into a fine growth at once. The old foliage of dormant plants is nearly all removed by trimming and packing and the new roots start immediately so the plant becomes established with feeding roots before it has foliage to be affected by the sun.

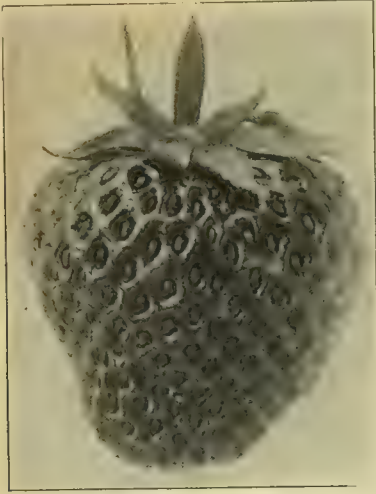
We take up plants as soon as frost is out of the ground—usually about the middle of March.

Northern Growers can not use southern plants successfully because they are in fruit in the south before ground in the north can be fitted for transplanting. While dormant plants can be kept even weeks in mild weather by heeling in, yet, after they have commenced to grow, it is difficult to save them in this way.

From points as far south as Maryland and Kentucky they are obliged to ship as early as February and March and even then plants have commenced to grow, so it is almost impossible to heel them in so as to keep them during the freezing weather of those months at the north. If shipments were delayed until northern ground could be fitted, the fruit would be half grown and at this period there is a change in the roots so that they very rarely succeed when transplanted at that time.



## SHORT CHAPTER ON "DON'TS."



Excelsior

## DOLLARS AND CENTS.

It is important that you comprehend the difference in profits between intensive fruit growing as taught in these pages and the common methods of the average fruit grower. Take one thousand bushels of berries as the basis of calculation for comparison.

The average crop under ordinary methods is from 50 to 75 bushels per acre, and so to produce the 1000 bushels we must furnish and fit at least  $13\frac{1}{3}$  acres of land. You must then buy and set 93,300 plants, (7000 the acre). The cost of picking and marketing berries grown in the old way is always greater because you must go over so much more land for the same amount of fruit, and on the market you must accept what the purchaser sees fit to pay. You cannot secure regular customers at an extra price for common fruit.

To produce one thousand bushels by these improved methods and basing calculations on my own experience I should not think of using over four acres of land, (250 bushels per acre) and should therefore have to purchase and set only 28,000 plants. My crops have rarely dropped as low as that and have exceeded five hundred bushels per acre. Now I should sell this fancy fruit at from three to five cents per quart more than the common fruit grown by the old method and can hold regular customers who are glad to get this grade of fruit at the advanced price.

While it does cost some more work to give this intensive culture, yet the extra price of \$960 received for the fruit would pay for the entire cost of plants, use of land, manuring, marketing, etc. and leave me more than the gross price of common fruit for net profits.

As these plants would be grown in hills or hedge row they would not become exhausted by seed or fruit bearing and would produce large crops for three or four years while by the old way the beds generally cease to be profitable after the second year and must be plowed under and re-set.

These comparisons are not exaggerated, for in this calculation I have taken the larger estimate of common crops—75 bu. per acre—and the smaller amount grown by the improved method—250 bushels per acre and the lowest per cent of gain on quality—3 cents per quart, which gives a very conservative comparison.



Don't try to lift the whole world at once but only as much of it as will afford you profit and pleasure. Don't imagine you must have all the fancy tools to start with; you will be able to get them later. Any good farm tools will answer the purpose. Don't set any more plants than you can manure the ground for and cultivate thoroughly.

Don't forget that one acre of rich land set with Pedigree Plants and given thorough tillage will produce more clear profits than five acres of ordinary land set with scrub plants.

Don't forget that while many markets are glutted with poor fruits dealers find it exceedingly difficult to get really fine fruit and are hunting for the man who can produce it.

Don't forget that you can talk Pedigree Plants and high tillage to nine-tenths of the fruit growers till Doomsday and they will keep right on in the old ruts traveled in by their fathers and grandfathers and use scrub plants and give poor tillage and thus leave the profits to the "up-to-date fruit grower."

## HOW PLANTS FEED.

About ninety-five per cent of plants by weight comes from the atmosphere and only five per cent from the soil. There are about sixty ingredients in the soil which plants use but they get along very well if only sixteen of them are present. These ingredients are found in abundance in all friable soils, except potash, phosphoric acid and nitrogen which must be replenished by manures.

These foods must be dissolved in the soil water and are sucked up by the little hair roots and passed from cell to cell through the center of the plant to



Glenn Mary



## WHY WE PLOW.

We have shown that plants take their soil foods dissolved in water. If all the plant foods in the ground were soluble and available at one time, the rains would wash them all out and the land would soon become barren. It would do very little good to apply manure because it would be lost before the plants could use it.

Nature has provided for this by making a chemical change in the foods and they become insoluble in water, at the same time a resolvent was provided to make them available as fast as the plants could use them, and this "resolvent" is the oxygen of the air. When we plow, harrow and roll to crush lumps, it not only opens the ground so it will hold more water but the oxygen comes in contact with the soil grains just before the plants are set and they can then get plenty of food and will grow very fast.

No matter how vigorous your plants may be they will not produce large crops of fruit unless they can have food and moisture and this can only be secured by thoroughly manuring and preparing the soil.



Nick Ohmer

the leaves by a peculiar force known as osmosis. The leaves are the stomach and lungs of the plant and they digest the food by breathing the water away through little mouths on the under side of the leaves called stomatas and at the same time they take in carbonic acid gas from the air and combine it with the soil foods and this digested mass then passes out of the leaves under the bark building up the little cells in the plant and fruit which constitutes the growth.

This process in digestion can only take place in sun light, so a plant cannot grow and produce fruit unless it has plenty of light and air. They soon turn pale and die in the dark.

For this reason we must set all plants far enough apart for the sunshine to reach every leaf and fruit bud. The leaves of a strawberry plant naturally droop over so that the sun shines on the crown and therefore they must not be allowed to mat so thickly as to shut out the light.



Seaford



The Margaret

## WHY WE SUBSOIL.

Subsoiling is to follow the common plow with one which only breaks up and pulverizes the lower strata and leaves it at the bottom of the furrow. This subsoil must not be brought to the surface as it contains but little plant food. By breaking it up we actually create a reservoir of water under the plants which draws up by capillary action to tide them over the drouthy season. The soil grains being separated they will surround themselves with a thicker film of water. As an illustration, put some small gravel stones on a wet cloth and see the water pass up and quickly cover them and remain so as long as the cloth is wet.

Sometimes when the ground has been plowed the same depth for a number of years the bottom of the furrows become glazed and baked so hard the water cannot settle through it or come up from below by capillary action and when heavy



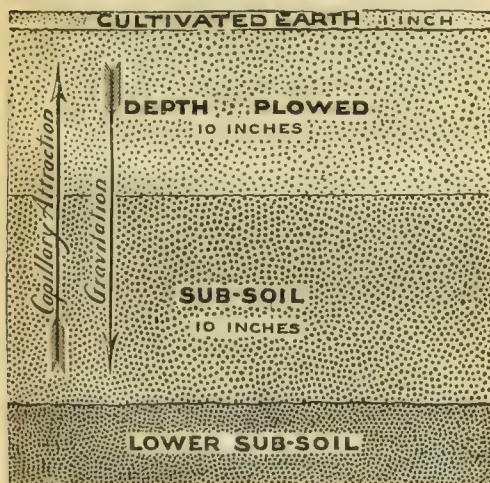
rains come the plants are drowned out and during a drouth can get no water from the subsoil, all of which is remedied by subsoiling.

Some soils are injured by subsoiling, as a waxy clay or gumbo soil, which, when very wet will run together in a solid mass. Earth worms tunnel such soils and keep them porous and it is better not to disturb them. A loose gravel or light sand is already as loose as it should be to secure capillary action and will be injured by making it looser.

A composition of sand gravel and clay or what is called "hard-pan" or any soil so dense you cannot dig it with the hands would be very greatly benefitted by breaking it up. I urge subsoiling wherever the conditions permit it. It should always be done very early in the spring so the rains will fill the "reservoir" before the drouth sets in.

## WHY WE CULTIVATE.

We cultivate to destroy weeds, prevent the ground from drying out and to admit the air to the soil so as to keep the plant food soluble. Having properly prepared the ground in the spring the air will find its way through the soil if you prevent a crust from forming on the surface. We want plenty of root pasturage for the plants and



One inch cultivated soil so loose water will not raise by capillary attraction. Ten inches plowed and firmed so water will raise. Ten inches of reservoir in subsoil.

so we must not stir the ground more than two inches deep to break the crust and keep the surface covered with the loose earth mulch, so the water cannot rise to the surface to be carried off by the sun and wind. **CULTIVATION DOES NOT ADD** any water to the soil but prevents that already there from getting away.

Water is moved in the soil by two forces. Gravitation pulls it down into the ground and capillary attraction draws it up to the surface again. Capillary means a hair-like tube or passage. The irregular shaped soil grains have a minute passage around them and the molecular force causes the water to come up through these hair-like openings just as the oil flows up through the wick of a lamp. The water will not rise in this way unless the soil grains are very close together. Now when we cultivate about two inches deep we make the surface so loose that while water draws up above the roots



Haverland

which are in the firmer soil it must stop as soon as it reaches the loose earth, because capillarity is overcome by gravitation and the water must stay below for the use of the plants.

When the lower strata of the soil is quite wet as it generally is in the early spring, the water will draw up fast and the soil gradually settle down by having the soil particles slip around and adjust themselves close together and the water draws up to the surface so the hot sun and wind will carry it off just as the flame of a lamp burns the oil as fast as it rises in the wick, and for this reason we must cultivate more frequently when the lower strata is wet than later in the season when it is dry. It is a great mistake to suppose we must not cultivate until the ground gets dry. We cultivate every week to prevent the soil from getting dry, and always after every rain.

We do not need irrigation to produce the finest fruit. Grow your berries in hedge row or in hills and maintain the dust mulch the first season and mulch in the fall with straw and let it remain on in the spring to keep the berries clean and to hold the water down until after the berries are picked and then burn it off and cultivate as described on another page. We cultivate in the fall every ten days until the ground freezes. Fall cultivation aids greatly in perfecting fruit buds. In the spring we cultivate every week and oftener during a drouth on spring set plants.

## SELECTING A SITE.

I do not care to spend much time on this subject. Everybody knows good land when he sees it. How would it do for a garden? Hard flinty clay or light, drifting sand are bad. A light clay or sandy loam are best. Stony land is good if it does not interfere with cultivation. Cold, springy land is bad. High land, that is, land which is higher than any in the immediate vicinity, is best. Cold air runs off the hills onto low land precisely the same as water, so that a low piece of ground with high land all around it should not be selected. Level land with no high hills near it will do. A south incline matures fruit early and a north incline makes the same variety later.



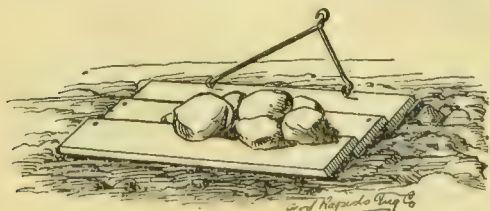


The Belle

## MANURING THE GROUND.

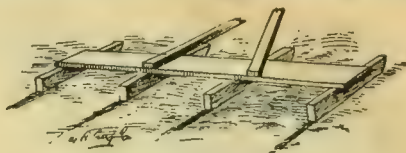
Stable manure is the best. I should prefer to have it well rotted, but that cannot always be had. Get the best you can find, even if you have to draw it as fast as made. Spread it evenly over the ground during the winter and early spring. Do not put in piles. The deep snow is no objection to spreading. The winter and spring rains will wash the juices into the ground so it will be incorporated with the soil where the plants can use it. Before plowing rake off all coarse straw so that capillary attraction which draws water from the lower subsoil shall not be cut off. Water will not pass up through a mass of straw if plowed under. Be very careful about this. If you can't get stable manure apply broadcast from 400 to 800 pounds of pure, fine ground raw bone meal and not over fifty bushels per acre of unleached hardwood ashes and cultivate in before plowing. If commercial fertilizers are used select those rich in potash and phosphoric acid which are always conducive to fruit formation.

**The Roller.** You cannot properly fit land without a roller or floater. The plow and harrow leave the ground too loose and do not sufficiently exclude free air and capillary action will not bring the water up from below. The particles of earth



The Floater

must be brought near together. If you do not have a roller, take three two-inch planks about seven feet long and one foot wide; bolt or spike the edges together like the siding on a house, and hitch a chain to each end and load it with as much stone as the team can draw, and go over the surface. On many soils it will do better work than a roller. Do not attempt to set plants in loose earth.



The Marker

**Marking off the ground.** Have your ground properly firmed, leveled and rolled so the perfection plant setter will set the plants exactly the right depth, or if you use the dibble or spade you can determine quickly the right depth for setting plants. Mark as light as possible where the rows are to be. For this purpose we take a board about one-half inch thick, eight or ten inches wide and long enough to mark four rows at a time. Make four short sled runners and nail them under the board the distance the rows are to be apart, and nail shafts or handles on the top to draw it with. A man can draw it all day without fatigue. The object of using a thin board is to make it bend and accommodate itself to the uneven surface of the ground. Get the first row perfectly straight and let one runner go in the last mark as a guide. This will make all the rows exactly so far apart, so that late in the season when your plants get larger you can adjust the cultivator so as to do thorough work by going once in the row.

There are four methods of growing strawberries: The hill or single plants, the hedge row, half matted row and full matted row.

## HILL CULTURE.

Hill culture may be defined as a method of consolidating many small plants into one very large plant and many small berries into one large berry. As a rule, when you cut off a runner and check the plant from multiplying itself in that way, it will then try to multiply itself by seeds or fruit and proceed to form a new crown and fruit buds and in this way will build itself up to immense proportions. We have often had plants so large a bushel basket could not be placed over them without doubling



Photograph of a Four Quart Plant

The foliage was removed to show the berries.





Carrie

up the leaves, and they will produce from two to four quarts of very large, high flavored and bright colored berries to the plant.

The conditions for hill culture are that plants must be in strong fruiting vigor. Common plants will not stool up but make too many runners and add to the work of keeping them off. The soil must be very rich and high culture given. Do not try to grow in hills on poor ground.

Set plants in rows 30 inches apart and 18 inches apart in the row or 30x30 and cultivate both ways; cut runners before they make leaves or have a chance to strike root. The runners are kept off throughout the season, and cultivation continues until the ground freezes in the fall.

### THE HEDGE ROW.

The hedge row gives very nearly as good results as hill culture and it involves less labor. The plants are set in rows from 30 to 36 inches apart and 20 to 30 inches in the row. Those making runners freely, the latter distance. The first runners should be thrown around so as to fill the rows in a straight line and let the plants stand six to eight inches apart and then all later runners are cut off very fast with the rolling runner cutter



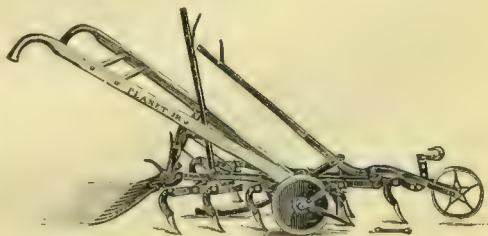
Rolling Runner Cutter and Leaf Guard

which can be readily attached to the cultivator, but we prefer to attach it to a garden wheel hoe or any one can easily make a wooden wheel and frame which would answer the purpose well. The runner cutter is a steel disk ten inches in diameter with leaf guard and out rigger for attaching it to the cultivator. Price \$1.50.

The advantages of growing in hills and hedge row are that each plant has plenty of light with space between the rows for abundant root pasturage. Nearly the entire surface can be stirred with the cultivator and kept covered with the loose earth mulch so plants are never injured by drouth and all weeds destroyed with the least possible amount of handwork, and cutting runners with the wheel requires very little time.

When the runners are cut the plant not only makes new crowns and buds but it makes more roots and sends them down deep and far out in search of food to bring their great berries to perfection.

The plants produce heavy crops for several years without re-setting because they have plenty of roots to sustain them. There are no more seeds in a large berry than in a small one and in this way nearly every berry grows to a large size so that they are picked as soon as ripe; and as there are only comparatively few seeds maturing at any one time exhaustion in seed bearing is in a great measure prevented; and thus the bed can be fruited three or four years without re-setting.



Runner Cutter on Cultivator

### THE HALF MATTED ROW.

This is the next best way to grow berries. Make rows three and one-half feet apart and set plants 18 to 24 inches in the row according to variety and fertility of soil. Keep off all runners until about the first of July so as to subdue weeds and get plants well established. Then let runners start and form a row one foot wide and after this use the rolling runner cutter and clip off all runners as fast as they come out into the alley taking care not to let plants set closer than eight to ten inches apart. You will then have a large beautiful row in the fall.

### THE FULL MATTED ROW.

Probably three-fourths of all strawberries are grown in this way, but progressive fruit growers are fast finding out that it is a mistake. It is only justifiable when the land is too poor to grow them in other ways. Make rows four feet apart and set plants 18 to 24 inches in the row. Let the cultivator go in the same direction every time so as to throw the runners around without tangling them and as they root narrow up the cultivator.

The objections to the full matted row are that when the row is full a strip of ground some twenty inches wide is left which cannot be cultivated.



The crust forms over this excluding air from the roots and soil and the water draws up to the surface so the roots are dried out and injured. If the top of the ground is dry the runners will not send down their roots but continue to live on the mother plant, forming several plants on the same runner which blows around in the wind and does not take root until the fall rains come, and then it has no time to make and perfect its fruit buds and roots and so the next season cannot bring its berries to full size and maturity.

If the ground is rich the plants will mat so thickly that sun light is excluded from the lower foliage and the crowns. Fruit buds which will not form in dense shade will be lacking. Many of the berries are too small to pick, and rot on the vines and sap the vitality of the plant, thus preventing the better berries from growing to full size.

I urge all my customers who want to make a reputation for growing fine, large, even sized, beautiful berries to adopt the first two methods.

## FALL SETTING OF PLANTS.

We wish it distinctly understood that we will not furnish plants for summer and fall setting at any price. People have sent here for plants in the fall giving them no time to establish themselves and form fruit buds and roots. In the spring blossoms start at once taxing the resources of the plant to exhaustion because of lack of rootage, and the berries secured so deplete the vitality of the plant that only a moderate crop can be secured the following year, thus injuring my reputation as a breeder of thoroughbred plants.

The Value of Pedigree Plants is in the potency of their pollen and general ability to develop fruit and I must insist that they shall have a fair chance to demonstrate their good qualities; for this reason we have decided to furnish plants only for spring setting.

## SETTING PLANTS.

The great point is to have all the roots straight and separated from each other and imbedded in soft mellow earth so that new feeding roots can start out in every direction without any hindrance and thus secure a vigorous growth at once.

The spade is quite generally used, but in the hands of a careless man it is about the most villainous tool ever used for the purpose. The first objection is that when forced into the ground, moved back and forth and sideways it makes a glazed surface and when closed by the foot in the ordinary way incases the roots in a veritable

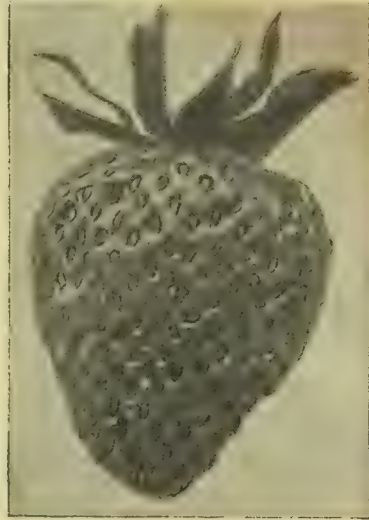


The Wrong Way



A "Rat Home"  
(Bottom of hole not closed.)

pocket and if dry weather follows the glazed surface will dry out and no feeding root can penetrate it. Dig a plant up a week afterwards and find the little white rootlets tracing up and down



Cyclone

the old root to find a crack in this "plastered wall" through which it can penetrate to the mellow soil just beyond. No good growth can be had under such circumstances. If the ground be moderately loamy or clay the weight of a man will not close the bottom of the cavity.



Too Deep



Too Shallow

Set a plant and step on it in the usual way and then dig down by the side of it and see how many "rat homes" you will find with roots hanging in the free open air. You will be surprised to find that often more than half are exposed. Another objection is that the lower ends of roots are buried too deep. The roots of a plant spread out in all directions and coming near the surface feel the warmth of the sun and send out feeders much sooner. Notice the natural tendency in roots to run near the surface when taking them up in propagating bed.

Use the spade this way. Let a man go ahead of the setter, force the spade straight down two-thirds the length of the blade, then draw the handle towards him about ten inches, force one inch deeper, push from him far enough to make the earth stay and withdraw the spade, thus leaving the opening so the bottom is easily closed. Quickly insert the hand rub off the glazed surface and take a few roots from one side of the plant, holding crown in left hand, deftly drag the roots sideways into the opening and when all spread out evenly and center of crown just even with surface of ground quickly fill the cavity, piling the earth so that when stepped on it will be perfectly level around the plant.

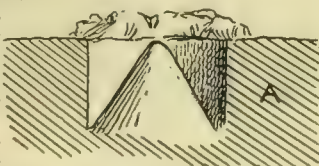
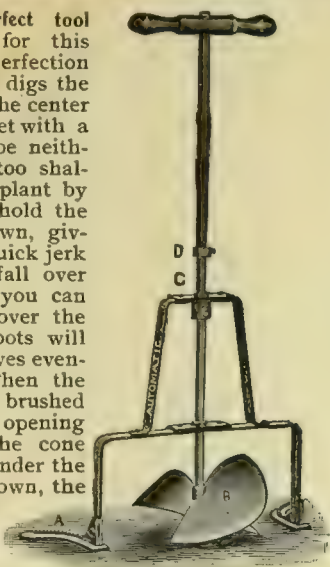


The most perfect tool ever invented for this purpose is the perfection plant setter. It digs the hole leaving in the center a cone. It is set with a gauge so it can be neither too deep nor too shallow. Take the plant by the crown and hold the roots upside down, giving it a slight, quick jerk and roots will fall over the hand when you can quickly turn it over the cone and the roots will arrange themselves evenly around it. Then the dirt is quickly brushed back into the opening and firmed. The cone comes clear up under the center of the crown, the bottom of cone being about five inches in diameter and roots so distributed there can be no tangled mass, as it gives a circumference and immediate root pasture of over 15 inches.

The perfection plant setter does the work faster than any other machine that will do it equally well.

The only requirements are that the ground shall be properly fitted by rolling and free from sod, straw, or anything which would gather on the edges of the blades in quantity so as to tear the cone to pieces. Small stones do not interfere if not too many. Price of setter, \$3.50.

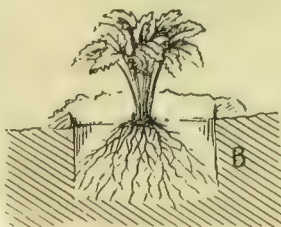
An absolute necessity. I wish to impress the necessity of loosening the earth around the plant by cultivating immediately after plants are set so that capillary action will bring the water up above the roots and collect under the loose earth or dust mulch and nourish the plant during the trying ordeal of transplanting and becoming established. Where you step around the plant to firm it about the root you have left the particles so close together that the water draws up to the surface with great rapidity to be carried off with sun and wind. I do not wait a single hour after plants are set before cultivating.



The Cone  
(Ready for the plant)



Separating Roots



Ready for Covering

If the crowns are too low they will rot or make a feeble growth. If too high the upper roots will be exposed to wind and die. The new roots always start from above the old ones and if the plant is not in the ground deep enough they will not start. (See engravings.) If a little too deep new crowns will not start on the side of the plant, and if a little too high it will make only a feeble growth. I urge great care in doing this work.

Leaving the ground without cultivation for a few days in a dry time kills and stunts more plants than any other negligence you are liable to commit. To have a boy drop plants ahead of the setter, often leaving them five minutes in bright sun and drying winds is sure death or permanent injury. Don't do it. Put a piece of manilla paper in the bottom of a basket and pour in a quart of water and then open the bunches of plants and set the roots in it and take them out as needed. Do not let them stand in water only a few minutes before setting as they become soaked and injured. If the weather is cloudy and roots moist do not wet them at all.

## PICKING BLOSSOMS.

It is of the utmost importance that blossoms be removed on spring set plants as soon as the buds start. The production of pollen and receiving fluid of the pistil is the most devitalizing and exhaustive process the plant is ever called upon to perform.

They form all their fruit buds in the fall ready to bloom out on the first warm days of spring. We then take them up for transplanting and before they can make roots to sustain them the devitalizing process begins and is sure to lessen fruiting vigor. We are always very particular about this. It will retard the growth all summer, and greatly shorten next season's crop of fruit.

## INSECTS.

The only insect likely to do serious damage in strawberries is the white grub or larvæ of the May beetle. The larvæ feed on the roots of grass and are often found so thick in old June grass sod or pasture as to destroy it. They are passionately fond of strawberry roots and great care should be exercised not to set plants on ground infested with them. They remain in this larval state for two or three years, doing the most damage the second season.

Grubs similar to these are often found in manure and old wood, but that kind does not eat roots and is therefore harmless. As there are so many kinds it will be safer to send some of those found in your ground to the entomologist at your State Agricultural College and ascertain if they are the true May beetle. They can be sent by mail. They very rarely or never lay their eggs in fresh cultivated ground so that if the land has been in any hoed crop for one or two years previous there will be no danger. Examine old strawberry beds carefully before resetting.

## CARE OF AN OLD BED.

Plants grown in hills or hedge row will fruit heavily three or four years if good culture be given them and fertility is maintained. As soon as fruit is picked stir up the straw and get it dry and burn it off to kill insects and fungi and cultivate at once. The crowns of plants grown in this way being so prominent it is safer not to put much straw directly on the plants for burning.



The full matted row should have the tops mowed off, not too close, and mulch stirred up so it will dry and then wait for a high wind so the fire will pass over rapidly and burn all annual weeds, insects and fungi.

I wish to emphasize three things:

**First.** This burning must be done *immediately* after the picking season is over. The plants are now utterly exhausted. The old leaves and roots die, a spark of life remaining only in the crown. The plant remains in this dormant condition only a few days, when new leaves start and new roots come out, above the old ones. The old foliage is an injury to the plant because it is often more or less affected with fungi and the spores are liable to go to the new leaves and should therefore be destroyed.

It must not be burned after this new growth starts, or the plants will be killed or greatly injured.

**Second.** A good, strong wind must prevail, to drive the fire over the ground rapidly, when there will be no danger of heating the crowns.

If there is an abundance of mulch, it is better not to mow the plants off. Put the mulch on the row so it will destroy all the old leaves.

**Third.** To cultivate the same day of the burning. The pickers tread the ground down hard, making capillary attraction perfect, so the water will draw up to the surface to be carried off by the wind and hot sun and the ground will soon dry out below the roots and the plants will die.

I have heard of plants being killed by burning, but in every case some of these things have been neglected. We have burned over our beds every season for many years and never had a bed injured. In a few weeks the bed will look like a new spring set field. As all annual weeds are killed but very little hand work is required.

It is important to cultivate so as to throw about an inch of fine earth over the plants as the new roots come out above the old ones and the crown of the plant is raised up every year. This also acts as a mulch to conserve moisture. The full matted row should be narrowed up to about a foot in width.

## WINTER PROTECTION.

In the case of strawberries it is not the freezing that does the injury. On many soils, especially clay, when the ground freezes all night and thaws the next day under the influence of the bright sun, the ground contracts and expands, and thus heaves the plants up, pulling the roots loose, which weakens them. Now if we place some coarse litter over the plants merely to shade them from the sun to prevent thawing during the day and the frost comes out very slowly, no injury can result.

The plant must have air for its foliage even if frozen solid, hence, any heavy, dense mass like manure will smother and injure it. The strong ammonia washing down from manure is very bad for the foliage and it should never be placed directly on the plants, but it may serve a good purpose in conserving moisture between the rows. Light chaff, straw or marsh hay may be used.

In the spring if the mulch has been applied between the rows heavily enough we rake off from directly over the plants to allow the leaves and stems to come up through the mulch, and leave it until after the picking is done. If the mulch has been applied only on the plants and none between the rows, we cultivate not over one inch deep and then rake part off to the edge of the row to keep the berries clean.

## NEW VARIETIES.

Our experimental grounds for testing new varieties are carefully conducted. Parties having new seedlings of great promise may send them here and have them carefully tested and secure a full report of their behavior.

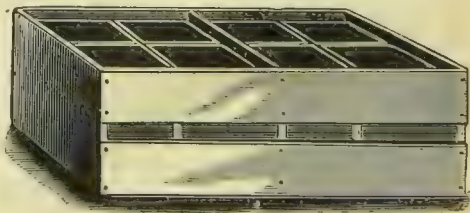
They may rest assured that no plants will be propagated from them except to improve them by our system of selection and restriction.

None will be allowed to leave the ground without their consent. It requires at least twenty-five plants for a fair trial. We shall test many hundred seedlings originated through our thoroughbred plants and hope soon to offer some of great excellence, but they must be thoroughly tested under many conditions before they can be offered to the public.

## NUMBER OF PLANTS REQUIRED TO SET ONE ACRE.

| STRAWBERRIES. |                   | GRAPES. |              |
|---------------|-------------------|---------|--------------|
| 18x30         | inches-----11,616 | 7x 7    | feet-----888 |
| 30x30         | "-----6,968       | 7x 8    | "-----777    |
| 18x34         | "-----10,230      | 7x 9    | "-----691    |
| 34x34         | "-----5,426       | 7x10    | "-----662    |
| 15x48         | "-----8,712       | 8x 8    | "-----680    |
| 20x36         | "-----8,712       | 8x 9    | "-----605    |
| 18x36         | "-----9,680       | 8x10    | "-----544    |
| 36x36         | "-----4,825       | 8x11    | "-----495    |
| 18x42         | "-----8,297       | 8x12    | "-----453    |
| 18x48         | "-----7,260       |         |              |
| 24x48         | "-----5,445       |         |              |

| RASPBERRIES, BLACKBERRIES, ETC. |                |     |                |
|---------------------------------|----------------|-----|----------------|
| 3x5                             | feet-----2,904 | 3x7 | feet-----2,074 |
| 3x6                             | "-----2,420    | 3x8 | "-----1,815    |



## BASKETS AND BERRY BOXES.

For many years past we have bought all our fruit packages of the Wells, Higman Co., of St. Joseph, Mich., and knowing them to be among the most extensive and reliable manufacturers in their line, I take pleasure in recommending them to any one who may be in need of any berry boxes or other shipping packages. Their goods are strictly first-class, and fruit growers who are not acquainted with this firm should correspond with them. They will mail their illustrated catalogue free on application.

## VARIETIES OF STRAWBERRIES.

The great diversity of soils and degrees of fertility as well as peculiar methods of cultivation adopted by different growers makes it extremely difficult to recommend particular varieties.



Suppose you and a neighbor order twenty best varieties each and put them under the modes of cultivation recommended in this book. You would find one or more sorts which did better than all the others and this would be the variety you should make your leader; but when you came to compare notes with your neighbor you would not be likely to reach an agreement as to which were the best sorts.

You need several varieties, not only for testing to determine the ones most profitable, but the tastes of your customers will vary fully as much as your plants. You must be prepared to hold their patronage by offering them just what they want throughout the season.

In making up this list of varieties, I have, through my extensive correspondence and published reports of government experiment stations, taken special pains to discard what are called local varieties or those which succeed only in a few localities and thus there are twenty-six varieties in last year's lists thrown out this year. Many of these discarded sorts were popular over wide areas, but we have better varieties to take their place.

We have a large number of sorts now on trial and we shall breed them up, and if they develop better qualities we will substitute them for some of the kinds we now offer and thus keep only the cream of all the leading varieties on our lists.

It shall be my business to visit the great fruit centers during the coming summer and study these new varieties on other grounds and in different localities to learn their good qualities and defects and thus be able to prune off and add to our list only sorts of the greatest value and at the same time reduce the number as occasion requires.

The varieties here offered have been widely tested and those introduced within the last few years have been carefully bred up and are the finest of their kind on the market. Never in my history of sixteen years of study in plant life have I had such perfect conditions in all particulars for plant breeding and testing varieties as at present.

This farm was selected after a search of many weeks and then was practically made virgin soil by plowing under leguminous plants so the ground is now sufficiently soft and mellow to secure perfect root development, and rich in those minerals which encourage fruit bud formation.

Our irrigating plant is equipped with a new engine and pump which will deliver fourteen hundred gallons of water every minute to any part of the farm, which enables me to maintain the exact degree of moisture necessary to secure the most perfect results, and to send customers finer plants than can be found any where else in the world.

A look at the prices will show you how, by the use of a very small amount of money, you can start a propagating bed this spring with these Pedigree Plants and propagate your own plants for setting a year hence; or, if you wish to plant largely this spring, you can't afford to throw away your money and labor on mongrel plants.

It will pay you big money to adopt the better methods and enjoy the fame of being a leader on the market and secure a competence for your family and old age.

I point out to you nothing more than I have accomplished, and whereas I have spent many years of hard work and large sums of money in experimenting with these plants, you can, for a very small sum, stock your ground with the same as I have used to produce these large crops.

Send in your orders as early as possible so as to secure the varieties you desire as all orders will be filled in the rotation in which they are received

and booked. Write me whenever my experience can serve you.

The illustrations are photograph half-tones made expressly for this book and serve to show the relative types and comparative sizes of the different varieties. The descriptions are as we find them in our field notes on our testing grounds.



Bi-sexual, (B)  
or Male Flower

Pistillate, (P)  
or Female Flower

In selecting varieties arrange to have every third row of those marked "B" (Bi-sexual), and the other two marked "P" or pistillate which are designated for the same season, early, medium, or late. Those marked B may be set alone although I believe they fruit better if about six rows of different kinds are set alternately in the same field so as to cross fertilize.

There is no strictly male flower. Such a variety would produce no fruit. The only reason we use the pistillates is they are much more productive and hardy.

## VARIETIES

### IN ALPHABETICAL ORDER.

See Price List on Page 29.

**Aroma.** (B) Season very late. Size much above medium, bright red flesh to center and a good shipper. One of the very best pollenizers for all very late sorts. It is a leader here and will be generally planted. It will not disapoint you.

**Bubach.** (P) Season medium late. One of the large show berries of such excellent quality that it always captures the market. Berries bright crimson, moderately firm but first class for near market, succeeds best on rather heavy soil.

**Bederwood.** (B) Very early and productive. On some soils its foliage sometimes rusts a little but it always brings its fruit through in fine shape. It is recognized as a standard sort for fertilizing all extra early pistillate sorts. Berries above medium size and bright red color.

**Brandywine.** (B) Season medium to late. One of the grandest berries ever introduced. It is one of our favorites. If you do not have it by all means get it this season. It is one of the heaviest fruiterers, a splendid shipper and a "catcher" on any market. Berries very large, deep red to center, of the type shown in the photograph. Stems short and stout and holds its great load of berries well up from the ground. One of the strongest pollenizers for pistillates of its season.



**Wm. Belt. (B)** Season quite early to very late. Berries very large, bright crimson and one of the most productive of the extra large sorts. It seems to prefer a rather heavy soil.

**Belle (B)** Season late. This is one of the large, long berries quite uniformly of type shown in the photograph. It should be picked with stem on and served by dipping point in sugar and eaten out of hand. Flavor is delicious and a good shipper. Plant it for the fancy trade.

**Brunette. (B)** Season medium early to quite late. Berries large, cone shape, dark red to center, very productive and of the very highest quality. It will rank No. 1 as a dessert berry and is in all respects very desirable, especially as a home berry where quality is appreciated.

**Bismark. (B)** Season medium late. A seedling of Bubach, which it resembles and is one of the most productive, large, perfect flowering berries ever introduced. Colors all over at once, very bright red and delicious. The berry in the glass under the Marshall represents it fairly. It is a good shipper.

**Clyde. (B)** Season medium. It has been many years since a berry has been introduced which created such a furor among growers as this. Its strong points may be enumerated as follows: enormously productive, berries large, cone shaped, as pretty as a top, bright crimson to the center, foliage light green color, free from any spot or rust and seems to succeed on all soils. By all means give this berry a trial.

**Cobden Queen. (P)** Season quite early to late. Berries large, cone shaped and very beautiful, bright red and one of the best shippers, always selling at highest price. Its foliage is very rank and it makes itself at home on any soil. A grand market berry.

**Cumberland. (B)** Season medium early. Berries as true as a top, light crimson and very large. One of the most beautiful berries, and a great seller for near market. Mild, rich flavor. Many persons cannot eat a sour berry and will enjoy this.

**Cyclone. (B)** Season very early. One of the best pollenizers for early pistillates. A good shipper, of good size, high quality, bright red, long heart shape. It is one of the most popular varieties. Its foliage is very vigorous and never rusts. I know of no early berry which is more productive. We use this more largely as a pollenizer for early berries than any other. Succeeds on light or heavy land. Does best in hedge row.

**Carrie. (P)** Season medium early. A daughter of the Haverland and very closely resembles it. It is large, bright red color and very firm. It is conceded to be one of the most productive berries ever put on the market. While it was only recently introduced yet evidence is abundant that it succeeds generally and will be largely planted.

**Crescent. (P)** Season early. This berry has made more money for growers than any other ever introduced. When properly grown, above medium size, bright red, good quality and a good shipper. Many growers have fruited it to impotency, and laid it aside because it would not attain size. I have maintained its vigor, so that it often grows as large as sharpless. It makes runners freely, and must be grown in hedge or half matted row for "big berries and lots of them."

**Commander. (B)** Season early. It was imported from England three years ago. It seems more at home here than in its native land. Berries are very large, bright red to center and productive. Its quality is fine.

**Drouth King. (P)** Season early. It is of the Crescent type in habit of growth and roots very deeply



View of South Main St., Three Rivers

and succeeds on light sand and thrives well in spite of a protracted drouth. It is "King of the dry Lands," a fine shipper, very productive. Berries when grown in hedge or narrow row are good size and fine quality.

**Enhance. (B)** Season late. One of the most productive bi-sexual berries grown. Berries very dark red, sometimes ribbed, very large and holds its size to last of season. Good pollenizer for late pistillates and succeeds everywhere. Has a flavor peculiar to itself and most people like it very much.

**Epping. (P)** Season medium early. Berries quite large, even size, bright color and very productive. One of the best for home or market. Foliage very vigorous and succeeds generally.

**Enormous. (P)** Season late. As its name indicates its berries are very large and bright red to center. Succeeds best on rather heavy moist soil where it is very productive.

**Excelsior. (B)** Season very early. This is a new berry introduced last year and is surely of the greatest value. I especially urge all growers to get a few of these plants and propagate for general planting as an extra early berry. It is one of the most productive extra early sorts yet discovered. It is a cross between Michel's Early and Hoffman. Its foliage is very vigorous and will make itself at home where any strawberry will grow. Its berries are good size, cone shape, bright color and holds up well. It ripens all its berries in a few days.

**Earliest. (B)** This is the earliest berry ever introduced. In berry and general habit it closely resembles the Michel's Early. It was introduced two years ago and has been widely tested. It makes runners very freely and must be grown in hedge row to prevent matting too thickly, when it is very productive for an extreme early berry.

**Fountain. (B)** Season medium early. A berry of the highest quality, very handsome and of regular shape, and one of the most productive. It will command a fancy trade on account of superior flavor.

**Greenville. (P)** Season quite late. Now in general cultivation and a great favorite. It's a rival of Bubach but succeeds better than that on sandy soil. Berries very large, bright crimson and very productive, a splendid berry for near market.

**Gandy. (B)** The old, reliable, very late berry. It is very productive when in full vigor and will command a big price when other varieties run small. Berries are very regular and of even size and very firm. A good pollenizer for Sunnyside.





Portage Ave., Looking toward the Kellogg Farm

**Glen Mary.** (B) Season medium early to quite late. Last year I hesitated to class this as a perfect flower but after keeping it under restriction two years I am now satisfied the pollen is strong and therefore class it among the perfect flowers. Berries are large, bright red to center, glossy and beautiful in the box, and one of the most desirable on the list.

**Henry.** (P) This was introduced last year as a premium to *The American Gardening*. I have not fruited it but offer it for testing. The berries are claimed to be very large and fine.

**Haverland.** (P) Season medium early. This berry, when well propagated, holds its place as the most productive berry grown. When planted in hills or hedge the berries lay in windrows on each side of the row. While it is not classed as a firm berry, yet it has a tough skin and handles well for a near market. Its stems are not strong enough to hold the immense loads of berries up from the ground and must be mulched to protect them. Berries large and uniform, bright crimson.

**Jacunda Improved.** (B) Season early. A seedling and great improvement on the old Jacunda. Berries very large and fancy. Bright red, and of the best quality. A good pollenizer. Largely grown in the west.

**Lady Thompson.** (B) An extra early berry and largely grown in the south for shipping north, but now generally planted all over the north. It is one of the best. Berries large and firm, dark red and attractive in the box.

**Lovett.** (B) Medium early. A great favorite with all who have fruited it. It stands high as a pollenizer for all medium early pistillates. Size above medium, quite firm, dark color and high quality.

**Louis Gauthier.** (B) Season medium to late. It was imported from France and introduced two years ago. Its value is the peculiarity of developing buds on the new runners in the fall. It is valuable to those who want big berries in September.

**Marshall.** (B) Season late. King of big berries (see photograph). I have greatly improved vigor of foliage and increased size of fruit by my method of propagation and now believe it has no equal as an extremely large berry. Berries deep blood red to center, flavor very much like the wild berry. Foliage large and vigorous. While it will not perhaps yield as many quarts to the acre as some medium sized berries, yet it is the best extra large berry. It makes comparatively few runners and should be grown in hedge row or hills to get largest berries.

**Michel's Early.** (B) Long been known as the extra early berry. It should always be grown in hedge row when it is very productive if free from exhaustion. It makes runners very freely and many have propagated in beds so thickly that light was excluded and thus it lost its tendency to form fruit buds. We have it in its old time productiveness. Last season it held the market ten days at a big price before the other berries came in. Berries medium size, cone shape and a good shipper.

**Mexican Everbearing.** (B) Season early. Berries medium size, bright red, regular shape, bears a second crop in August and September. If season is favorable the fall crop is quite heavy.

**Manwell.** (B) Season medium. Berries large, bright red and very desirable. Only the best reports come from it wherever tried. A fine berry for those catering to a family trade.

**Michigan.** (B) The latest berry on the list, very large and fine and reported a success wherever grown. It is one of the most profitable because it is not only productive but holds the market when all other sorts are gone.

**Magoon.** (B) Season very late. It has more than met expectations. One of the most valuable for northern growers who desire to ship south, after southern berries are gone. Very large, bright red to center, rich flavor. They ship it from Oregon and Washington to Chicago in carload lots receiving a high price for it, after other sorts are gone.

**Margaret.** (B) Medium early to late. The berries are large, even size, bright red to center, and of best quality. The reports throughout the country speak of it in highest terms. Here its behavior was fully up to expectations. A great berry for family trade.

**Nick Ohmer.** (B) Season commences quite early and continues very late. It was introduced last season at \$2.00 per dozen and all reports show that it has great merit. Few berries have had so high endorsement from such eminent authority. It is very large, even shaped, bright red and high quality. I urge a trial of this as I believe it will come into general cultivation.

**Oregon Everbearing.** (B) Season early. After the first crop it rests a few days, then sets fruit for the fall crop, which sometimes is quite heavy if season is not too dry. It's nice to have a dish of strawberries in August and September.

**Ocean City.** (B) Season medium late. Introduced three years ago. The vigor of the plant is remarkable. In size, color and shape of berries it closely resembles the old Sharpless, but is more than twice as productive. I am much pleased with it.

**Parker Earle.** (B) Season late. Probably the most productive late bi-sexual berry grown. On light land it sets more fruit than it can mature. On rich, moist land under high culture, it succeeds well. Fruit large, good quality, dark glossy red. It makes very few runners. Succeeds well on low land.

**Ridgeway.** (B) Season medium early. Few berries have made more friends since its introduction. It roots deeply and stands drouth well. Foliage is vigorous and berries beautiful and so many of them that the acreage of this variety should be increased from year to year.

**Ruby.** (B) Season medium. It is certainly a ruby of the first class. Plants are large and stocky, Berries large, cone shape, even in size, a good shipper and one that catches the eye on the market. It is really an "up-to-date" berry.



**Staples.** (B) Season early, a seedling of Warfield and so closely resembles it that it can be used as a fertilizer with that variety and they can be picked together in the same crates. It is medium but very even in size, and deep blood red to center, and like Warfield, one of the best for canning or shipping.

**Sample.** (P) Season the very latest. It was introduced last year at \$5.00 per dozen. It is really a "sweepstake" and plants will be in very large demand for several years. In Massachusetts exhibitions it was given first honors and all who have grown it are loud in its praise. Its berries are larger than any other extreme late sort. They are very regular in shape, bright red and beautiful. Fertilize with Michigan. Order a few of these and make them your late leader.

**Sunnyside.** (P) Season very late. The most productive late berry yet introduced. Here it is very productive and should be included in every order as an extra late berry. Use Gandy or Aroma for a pollinizer. A good firm shipper and will therefore be valuable where growers ship south. Berries large, bright red and attractive.

**Seaford.** (P) Season quite late. One of the very best berries of recent introduction. In foliage it is simply immense. The berries are very large and deep red to center and is without doubt one of the most productive sorts introduced for years. You will make no mistake in planting this very largely. It is so vigorous it will succeed on all soils.

**Star.** (B) Season medium early. It is of recent introduction but is one of the bright stars of the strawberry firmament. The berries are large and true as a top; bright red and of excellent quality, and one of the most desirable of the new varieties.

**Splendid.** (B) Medium late. Above medium in size, dark crimson, regular shape and firm, and a good all around berry. Good shipper.

**Tennessee Prolific.** (B) A very early large beautiful productive berry. I am sorry the letter "T" in the alphabet brings this berry so far down in the list for it has made such a grand showing every year that it should be at the head of the list for early berries. It is planted largely in the south for shipping north and succeeds here equally well. Its foliage is vigorous, it roots deep and stands the drouth well. It makes runners freely but when grown in hedge row stools up in fine shape and should be classed as "enormously productive."

**Tennyson.** (B) Season early. Another ever-bearing sort. Produces many berries in September and October. In a wet season the crop is quite heavy, berries medium size, bright crimson and good.

**Tubbs.** (B) Season medium early to late. Now generally tested and found valuable. It is of the Crescent type, a free grower and very productive and continues through a long season, the berries holding up to good size until the close of the season. Berries bright crimson to center and very beautiful.

**Wolverton.** (B) Season medium, berries of the highest quality, large, bright red to center. The foliage is vigorous and not fastidious about the kind of soil. A fine berry for the market or family.

**Warfield.** (P) Season early. This is now recognized as the leading early market berry and when properly grown is the most productive berry of its season. It is so vigorous in foliage that if left to itself it mats so thickly that its fruitfulness is destroyed. When grown in hedge row it stools up to an immense size and over three hundred good large berries have been picked from a single



A Residence Street of Three Rivers

plant. Its deep color makes it fine for canning and is also an excellent table berry.

If your Warfields have become unproductive by all means renew them from this Pedigree stock.

**Wilson Albany.** (B) Season early. The oldest berry now in general cultivation and has done more to popularize strawberry growing than any other sort. By careless propagation it has lost its vigor and been discarded in many localities. While the berries are of only medium size yet people like it and it finds a ready sale. A grand shipping and canning berry.

## RASPBERRIES.

The raspberry fields of the country are generally in a deplorable condition. Not one grower in a hundred is harvesting one half the berries he should and what he gets are very small and without flavor.

It has been the universal practice for growers to fruit plantations until run out and then propagate from them to start a "new" bed which was again fruited four or five years when it did not pay for labor and then renewed again in the same way.

Nurserymen have contributed to this disaster by contracting with these parties for plants to fill their orders and thus their exhausted stock has been sent broadcast over the country.

Pruning has often been neglected and these plantations soon become pollen exhausted and while the canes are large they produce very little fine fruit. The weakened canes easily succumb to fungi and other diseases and after four or five crops are run out instead of fruiting heavily eight to ten years as they should do.

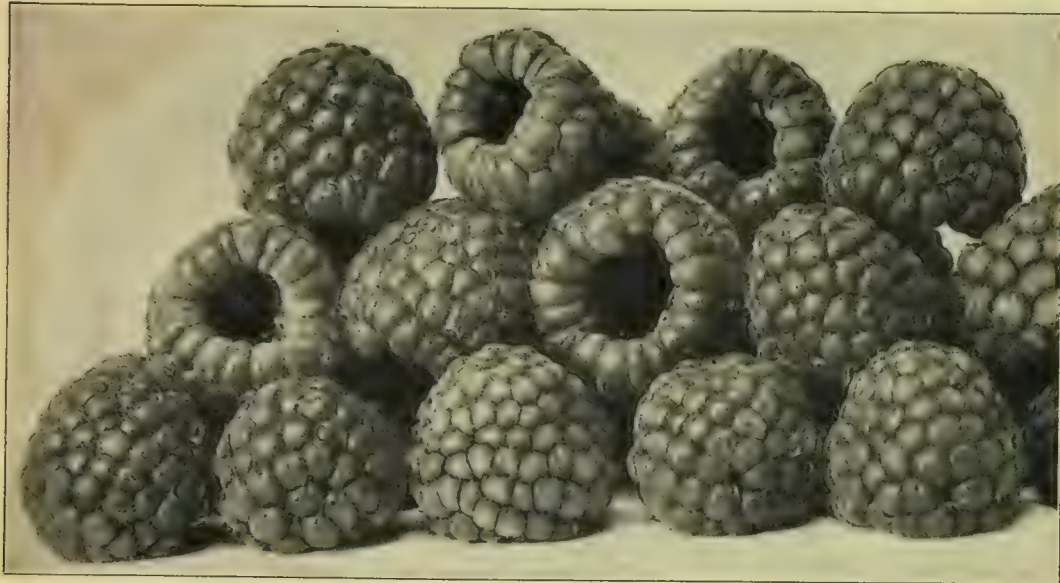
The true way is to breed up by propagating from ideal canes carefully selected and pruned. This is done with us every year so that this rapid selection weeds out all weak canes and leaves only those which are perfect and in full vigor.

The photograph shows one of our fields the second year after planting. The camera was placed too low to show the rows on right or left which are set seven feet apart, but exhibits the wonderful vigor of plants propagated under our system. This is the field which will produce the plants for this year's sales.

All plants sold will be from pedigree two year old stock and are the largest and finest roots ever furnished by any nurseryman and under good care will produce enormous crops for many years.

It is the big crop every year that pays and to get this you must have vigorous plants.





Photograph of our Pedigree Columbian Raspberries

Growers should propagate their own plants as far as possible but bear in mind it is a great error to think you can grow fruitful plants from old run out scrub stock.

You can order a few of these magnificent Pedigree plants this spring and bury the tips and thus get a start of thoroughbred plants for a large plantation next year. If your ground is ready you cannot afford to wait for propagating as the *extra berries* on one crop would more than pay for plants and you would be one year ahead.

Set in rows seven feet apart and three feet apart in the row. Having firmed the ground as for strawberries plow a furrow about five inches deep and set plants flat in the bottom of the furrow with roots spread in all directions taking great care not to break off the buds and firm the soil as solid as possible with the feet all around the plant and fill in the furrow with loose earth to act as a mulch. Cultivation should be frequent until the last berry is picked when the old canes should be cut out and burned at once to destroy any fungi or insects which may have found a lodgment in them.

It is the greatest blunder to stop cultivation and allow berries to dry up and canes to stop growing in mid-summer, and then make a late growth in the fall which will be sure to winter kill.

One of the neatest ways of growing raspberries is to string a wire about four feet high with a stake every forty feet, and tie the canes to this. The expense is not great, and it prevents the wind from threshing the berries off and gives clear space for cultivating. In this case I would not pinch them back, but let them grow in their natural way, and at winter pruning cut off the upper third, and this will leave enough buds to produce all the berries the bush can mature without exhaustion. I have come to regard pinching off terminal buds, when the plant is about eighteen inches high, a mistake. Checking natural growth at this time interferes with assimilation of plant food, and if the season is very dry and hot several days often intervene before new buds start.

But if ground is rich canes get so long that cultivation is interfered with and pinching back

might become a necessity if wire is not used. Great care should be exercised to remove only the terminal buds and not a leaf if it can be prevented. Never pinch in the laterals. One pinching of the main plant is enough. *Never* tie the canes to a stake in a bundle. They must have light and air and will not fruit without it.

Red raspberries should be treated the same as blackcaps except no pinching should be done. Let them grow in their natural way.

## VARIETIES OF RASPBERRIES.

Price List on Page 29

**The Black Diamond.** This will be introduced this year. It is called the Black Diamond because it is the most valuable of its class. In vigor of cane and freedom from signs of weakness it surpasses anything we have ever seen. The plants sell at 35 cents each but you can get a few plants and bury the tips next August and get a start at very small expense. When your neighbors see the fruit and bushes they will want plants. It will become a leader as soon as plants can be had for general planting.

**Eureka** made a great record again this year and is now acknowledged to be the best early blackcap yet introduced. Many of our berries are almost an inch in diameter, shiny black and firm enough to ship anywhere. It has made a great record all over the country and will be more largely planted this year than any other sort. Our plants are fully three times as large as any of this variety I have ever seen and are grown from ideal plants. Make this your leading variety and you will have no trouble about selling berries.

**Conrath.** This stands at present as the best mid-season blackcap. It is of ironclad hardiness, berries large, shiny black and is especially valuable for evaporating or for market.

**Palmer.** The earliest blackcap grown. It ripens its fruit several days before strawberries are gone and enables you to supply families without a break. It is very vigorous and productive.



**Columbian.** It is surprising that any one should assert that the Columbian is the same or no better than Shaffer's Colossal. In vigor of cane, and quantity and quality of fruit it far exceeds that variety and we have discarded Shaffer and given this its place. The berries are purple in color, very rich and vinous in flavor and are often found an inch in diameter, and it has less of the objectionable bloom than Shaffer. The canes when grown as recommended are very hardy and propagate readily from the tips.

**Gault.** This is one of the everbearing sorts. It bears a crop at the regular season and the new canes develop their buds at the tips and produce a second crop in September. The canes must not be pinched back like other blackcaps as this will destroy the second crop.

**Kansas.** A very large, hardy and vigorous berry. It has been selected at many government experiment stations as the best medium early blackcap and is commended for general planting.

**Older.** Its good qualities are deep rootage which succeeds on dry soils and is especially valuable on the arid lands of the west. It is of iron clad hardness. The season is medium early to late.

**Johnson's Sweet.** This is valuable as being the richest and sweetest blackcap grown. Ripens very early and is a grand family berry.

**Munger.** This berry was introduced two years ago, but has been fruited and tested several years to prove its value. It very much resembles the Gregg. The berries are often found an inch in diameter and it continues in fruit several days after other sorts are gone. Probably the latest blackcap ever introduced.

**Gregg.** This is the old standard late berry, more generally planted than any other late blackcap. The berries come late and are very large and fine and a good shipper.

## RED VARIETIES.

The cultivation is the same as blackcaps except they should never be pinched back.

The buds are not so strong on the laterals, and do not produce as good berries as those on the main canes. By cutting off the upper third of the cane at the winter pruning all the buds will be left that are desirable. The plantation will last longer and fruit better. Treat all suckers as weeds. It soon spoils a fruiting bed to cut the roots in digging up plants.

**The Miller.** It came to us with the highest endorsements and has sustained them all. It begins to ripen more than a week before strawberries are gone and is the most productive extra early berry we have ever grown. The berries are large, bright red, beautiful in the box, and an excellent shipper.

**The Marlboro.** This follows the Miller for medium season. On good land, very productive. Berries large, bright red, firm and a good shipper.

**The Cuthbert.** This has long been the standard late berry. Fruit is large, firm, bright crimson. It "stands up" well and can be shipped any distance.

**Golden Queen.** A seedling or sport of the Cuthbert, and closely resembles it except the berries are yellow. It is fine for canning and near market. After they have been picked a short time they turn a dull color and do not sell so well.

**Loudon.** Another year's trial places this at the head of the list as the best late red raspberry. Its berries are very large, bright red and so firm that they will ship anywhere and will sell at the highest price.



Sheffield Car Works, Three Rivers

## A REVOLUTION IN BLACKBERRY GROWING.

Nothing sells better, nothing pays better, nothing is grown more easily. The new method of starting the plantation produces double that of the old way. Its fruit is more luscious and a plantation will fruit heavily under good culture and pruning from fifteen to twenty years, giving annually large crops.

The demand for this fruit is practically unlimited. The trouble is blackberries as offered are sour, seedy and lack flavor.

Scarcely a town in the country is supplied at all with large luscious blackberries.

Under the new system of establishing the patch every cane is loaded with large luscious berries of the most delicious flavor and gives a big crop every year because the ground is filled with a dense mass of roots making root pasturage of every square inch of soil for several feet around the plant, furnishing it an abundance of food to sustain it in bringing its great load of fruit to full maturity without exhausting the plant.

How it is done. Pursue the same method explained in breeding up strawberries. Find all the ideal canes bearing the finest fruit, and not over two years old. Early in the fall dig them up and cut roots in pieces about three inches long and pack in boxes of clean, coarse, sharp sand and place in a cold cellar regulated with ice so the thermometer will stand at 35 degrees. An ordinary cellar will not do, for if allowed to get too warm the cuttings will commence to grow and all be spoiled. If allowed to freeze they will not callus and thus fail to emit sufficient roots.

What is a callus? It is a law of nature that when a root is cut or injured the plant will repair the damage by sending out new roots, but no new root will start until a callus is formed. Certain wood cells and a gristle-like substance must form, and out of this callus the roots start. The process requires time and goes on at a low temperature and the longer the root is kept in this dormant condition the more calluses there will be.

Roots prepared in October form calluses in great numbers before planting time the following May, when the cuttings are placed in nursery rows in rich, moist, sandy soil about three inches apart and one and a half deep. It is quite difficult to make them grow properly without irrigation. If the roots get dry they will fail. If buried too deep they damp off and die. Low, springy or cold ground will not do. They must have frequent cultivation and not a weed allowed to grow among them. As soon as dormant in the fall, the plants are carefully taken up and roots trimmed to the proper length and again packed in coarse sharp sand so it is solid around every root and kept as in the first winter, when calluses form all along the



sides and ends of roots so that when planted out where they are to fruit in the spring myriads of roots will start at one time and at the end of the season the ground will be full of fine feeding roots as above described. In keeping them in the callusing cellar it should be supplied with ice, for if perchance the cellar gets too warm the plants will grow and be lost. We are able to send them to customers while dormant early in the spring.

The common way is, as in the case of raspberries, to let a patch fruit as long as it will and then mow off the tops and let suckers come up from between the rows and the next season dig them up to start a new patch. Of course the weakness and exhaustion of the old patch is carried into the new. The roots on the plant are few and commence growing always from the end, and I have seen them extend several rods away, while near the canes the ground would not be occupied at all. The sap having to come through these long roots to the leaves for assimilation they are continuously sending up suckers which become a nuisance.

Digging sucker Plants destroys a plantation very quickly and causes the sucker nuisance to increase, and cutting the roots thus depriving the plant of its feeders when soon to be loaded with fruit, exhausts and renders it unfruitful. Treat all suckers as weeds and cut them off a little under the surface.

The location should not be on low or marshy ground. High ground is better.

## VARIETIES OF BLACKBERRIES.

Price List on Page 30.

We are able to furnish two-year blackberry root cutting plants, which will produce the next year fully half of a large crop and second year be in full bearing.

All the plants here offered are large root-cutting plants, re-callused, and under good treatment will produce double the fruit every year of those grown from common plants. The callusing process is a great triumph in blackberry culture.

**The Western Triumph.** On my farm at Ionia it has been the leading berry for twenty years, and has never failed to yield a large and profitable crop. I have never given it winter protection, and have never known of a failure if properly cultivated. It is of good size, free from core and has a delicious flavor. Season early.

**Taylor Prolific.** Follows the Western Triumph in season. It is regarded as very hardy. In quality it is probably the richest berry grown, having that sweet aromatic flavor peculiar to wild berries. It prolongs the season to the early grapes.

**Snyder**—that old iron clad, which succeeds anywhere a blackberry can be grown. If properly pruned and cultivated, the berries are good size and fine. Like all other blackberries under neglect and not pruned, it overbears and berries are small.

**Ancient Briton.** The leading berry in the northwest, where it grows to great perfection. Its canes and flexible roots render it easy to lay down for winter protection. Its berries are fine; season medium early.

**Eldorado.** Has now been thoroughly tested and is meeting with much favor. The demand for plants will exceed the supply. Canes are strong and entirely hardy; berries good size sweet and rich.

**Early Harvest.** The earliest blackberry grown, ripening with first raspberries. The berries are not large but so very even in size and beautiful they sell fast. It comes in long in advance of other varieties. It is not classed as hardy but its long slender growth makes it easily laid down for winter protection.

## DEWBERRIES.

When properly propagated and grown the dewberry is very profitable and a ready seller. It comes on the market two or three weeks ahead of high bush blackberries and always commands a high price. If left unpruned they soon fruit themselves into impotency and then produce only a few small deformed berries.

When propagated from plants in full vigor and pruned as directed the berries are very large, shiny black and deliciously sweet. Our berries this year averaged an inch and a half in length and an inch in diameter. Everybody wanted them and they sold at a high price.

**Prepare ground as for strawberries.** Set plants in rows five feet apart and three and a half feet apart in the row. Drive a good stout stake every twenty feet and put one wire twenty inches from the ground and the other about twelve inches above it and prune to five or six canes shortened to about four feet, and tie to the wires, spreading them out fan shape and then you can cultivate the entire surface.

If too many new "second" canes appear cut them off so as to throw all the strength of the plant into forming large canes for next year's fruiting.

The work required is not so much as you may suppose. It can be done very rapidly. Grown in this way you will be astonished at the size of berries and the amount and quality of fruit you will gather. In the north the canes can be easily laid on the ground and given a little winter protection by turning a light furrow over them. For this latitude it is sufficient to lay them on the ground late in the fall.

We can furnish the largest and finest plants this spring I have ever seen. All are grown from two year old Pedigree Plants in full vigor.

**Lucretia.** This is the leading and most popular dewberry yet discovered. It succeeds everywhere and is not particular about kind of soil. Berries are very large, bright glossy black and of fine flavor. It should not be picked oftener than twice a week when it is very sweet and rich. It ripens with the last strawberries.

**Austins Improved.** This is still a comparatively new berry, but of much promise. The berries are extra large and fine. It has the same season as the Lucretia.

## HARDINESS OF RASPBERRIES AND BLACKBERRIES.

The hardiness of all berry bushes can be greatly increased by proper cultivation. The term "winter killing" is a misnomer. It should be called *summer killing* for while the killing is actually done in the winter it is made possible by the lack of proper cultivation during the summer.

The ground is allowed to dry out in mid-summer and the plants stop growing and proceed to ripen their wood and buds and prepare for winter. Later on fall rains come and a late growth sets in which does not ripen before the leaves are killed by frost and then the whole process of growth of wood and buds is stopped and the plants reach heavy freezing weather full of sap and are injured or destroyed the first cold snap.

**How this can be prevented.** Start the cultivator early in the spring while the subsoil is full of water to prevent evaporation. Cultivate every week and always after every rain. When berry picking commences the ground is tramped down hard making capillary action perfect so water



draws up through the firm surface soil very fast, causing berries to dry up as well as stopping the growth of the plant. This is the reason why it is important to cultivate the same day after every picking.

Cut out the old wood as soon as the picking is over and then about the first of August sow as much as four bushels of oats to the acre and cultivate in. The amount of oats recommended is not excessive because they make so rapid growth they will not stool up and we want a heavy mat to make a mulch which will shade the ground and send its roots down appropriating the plant food and moisture so the bushes do not get it and this checks growth and causes them to ripen the wood slowly and when winter comes all the canes will be firm and solid and they will pass the winter like a scrub oak.

The oats will make a large growth and remain green until hard freezing comes when they will kill down but continue to shade the ground and prevent soil washing by winter rains, and in the spring be sufficiently rotted to cultivate in and add largely to the humus of the surface soil which prevents the particles from settling together and forming a crust, thus aiding very greatly in getting the desired early spring growth. The more humus there is in the soil the easier it is to conserve moisture.

Nothing pays so well in raspberry and blackberry growing as this process of cultivation. It keeps the berries large, juicy and delicious until the last one is picked. All the berries will then grow to their full size, and a bountiful harvest is secured every year. All the growth you get before the first of August is a benefit; all you get after that is lost, and all the wood made after the first of September is killed by slight freezing. Always let the cultivator go at a uniform depth of three inches so the roots can come near the surface to get air and still not be broken and mutilated by the cultivator.



### PRUNING.

The object of pruning is to make plants more productive and to extend their time of usefulness. If left unrestricted they throw their whole energies into this one act of multiplying their species by seed bearing. While they should be encouraged to bear a large crop of fruit they must not be allowed to bear an excessive crop and so exhaust themselves that they cannot produce another large crop for several years hence we must determine their ability and relieve them of surplus

fruit buds maintaining an equal balance between root and branch, preserve symmetry and beauty and furnish light and free air to all parts of the branches. With these suggestions the engraving will show how the work should be done.

### CURRENTS.

Price List on Page 30.

Currents are so easily grown, fruit so heavily, are so hardy and easily cared for that it is amazing that every table in the land is not abundantly supplied with this cooling and delicious fruit. The ground should be made very rich and the weeds kept out by frequent shallow cultivation. Heavy mulching will answer in small gardens but for the field give thorough tillage.

Prepare the ground as for raspberries and blackberries and set plants in rows six feet apart and four feet apart in the row, making check rows so you can cultivate both ways. Keep well pruned by cutting out old wood and shortening in new wood. Do not allow them to overbear and you will secure immense crops every year.

The Currant Worm appears soon after the leaves start, near the ground in a cluster. If a weak solution of Paris green is sprinkled on the lower center foliage that will be the end of them. If they appear later, dust a little white hellebore while the dew is on, or put a teaspoonful in a pailful of water and sprinkle with a whisk broom.

The London Market is by all odds the most profitable currant to grow. It sells for half more and produces almost double the fruit of any other variety. More will be set in Michigan this year than any other sort. The fruit is large, fire red, and clusters fine.

Victoria has long been a favorite. Where the currant borer is known to be numerous this variety should be planted, the pith being so small that the worm cannot work in it to do serious injury. Fruit is good size, bright red and very productive.

Fay. On very rich, heavy land and high culture it is fairly productive, and has very large berries. It does not sell better nor produce half as much as the London Market.

Cherry. The old standard currant, good size, good bunch and very productive.

### THE GOOSEBERRY

Is now attracting much attention and proving one of the most profitable berries grown. The demand is increasing very much faster than the supply. Their general cultivation is similar to that of currants, and insects are disposed of in the same way.

For picking use a thick pair of buckskin gloves and strip the fruit off by handfuls and run through a fanning mill, or pour them on a blanket so that the wind will blow the leaves out. It's quick work. Keep the bush pruned rather closely, and top of bush open. They do better with heavy mulch.

Smith's Improved is a large, pale yellow berry of great beauty and surprisingly productive. It is making many friends everywhere.

The Downing is the most popular berry for market, large, even, fine grained, and makes a fine large bush.

Houghton is enormously productive and very free from mildew. Berries are not quite so large as Downing, but in some markets sell better.





## THE VINEYARD.

Of all the fruit that grows there is none more beautiful and tempting than the grape, with its great rich clusters hidden away in the cool shade of its dense foliage. They are so easy to grow and afford so much pleasure for the labor expended, that a business man, mechanic or farmer who should deny his family or the hired help an abundance of this luscious fruit comes close to the border of cruelty. A few vines, a very little care, and the enjoyment is yours.

## VARIETIES OF GRAPES.

There are too many varieties that are not especially valuable. We describe a few of the those we regard as the cream of the list :

### BLACK GRAPES.

See price list on page 30.

**Concord.** It may be said that the introduction of the Concord was the beginning of successful grape culture in this country. It succeeds wherever a grape can be grown. It is yet the leading market variety and too well known to need description, but in many localities is giving way to the Worden.

**Worden.** I believe, is the richest and sweetest black grape grown in this country. Perfectly hardy, fully as productive as Concord, larger berry and cluster, and a week or ten days earlier. They are gone before Concord arrives.

**Moore's Early** is one of the best extra early grapes, ripening fully two weeks ahead of Concord. The berry is very large, entirely hardy, and on rich soil very productive. It is generally all gone before Worden comes on. Must have very heavy, strong, rich soil.

**Talman (or Champion)** is a prolific and profitable extra early market grape; ripens about the time of Moore's Early. Flesh sweet, juicy, and a rank grower. Healthy, hardy and vigorous.

**The Early Ohio.** The earliest good black grape known. It ripens fully ten days or two weeks before Moore's Early. Bunch large, compact and shouldered, berry medium size and covered with a rich bloom. Wherever tested has proven entirely hardy. Berries adhere firmly to the stem.

**Wilder (Rogers' No. 4).** Bunch and berry large, early, hardy, healthy, and productive; good keeper, profitable, and of excellent quality.

**The Hosford.** This grape was discovered in a vineyard of Concord. It has all the hardiness, productiveness and vigor of that sterling old variety. The berries and clusters are fully double the size of the Concord, single berries often being found exceeding an inch and a quarter in diameter.

### RED GRAPES.

**Delaware.** Considered by many as the standard of excellence in grapes, requires strong soil and good culture.

**Agawam.** One of the longest keepers and best family grapes grown. Can be kept until March.

**Jefferson.** One of the best red grapes, a good grower, hardy and productive. Ripens with the Concord.

**Lindley (Rogers' No. 9).** Desirable for extensive planting. Strong grower, healthy and hardy. Should be in every garden.

**Moyer.** Resembles Delaware in appearance, but is more vigorous and healthy. hardy and productive.

**Poughkeepsie Red.** Much larger in bunch and berry than Delaware, but resembles it in color and taste; very early.

**Salem (Rogers' No. 22).** Bunch and berry very large. Healthy, hardy and vigorous. A good keeper and fine table berry.

**Brighton.** Dark red; one of the most desirable of the new grapes; clusters very uniform and beautiful; quality fine.

**Wyoming Red.** One of the most hardy and beautiful very early red grapes grown. Skin rather tough; keeps well, fine flavor, vine very vigorous and hardy.

## WHITE GRAPES.

**Moore's Diamond.** Bunch and berry very large; strong grower, hardy wherever grown, and becoming more popular every year. It has come to stay and will be largely planted and sought for in the market.

**Niagara.** Quality about like Concord; bunch and berry very large; vigorous, healthy and hardy.

In selecting varieties of grapes, as well as other fruits, have them begin with the earliest and extend to the latest, so the table or market may be supplied every day throughout the entire season. Always have an abundance of some one variety.

## ASPARAGUS.



This is the greatest money making crop, labor considered, on the farm and will give a family more pleasure than anything else that can be placed in the garden. It sells at sight and people are just learning how delicious it is. Many prefer it to green peas. We have a half acre from which we generally cut about two hundred dollars worth of "grass" each spring. We cut it every warm day from the last of April 'till

the middle or last of June.

It grows from "crowns" and as soon as one shoot is cut another starts in its place so the growth is continuous. I have seen shoots as large as your thumb grow an inch per hour and we are often obliged to cut twice in a single day.

No family can eat as much as will grow from fifty or a hundred plants, and the bed will last more than one hundred years without renewal.

The plants are so cheap and trouble so little, every farmer should have a bed started at once. When the good wife is so bothered in April and May for "sass" she can step into the garden in a moment and gather a supply that in addition to a few other "fixings" will make a royal meal that will be greatly appreciated.

Select a site if possible sloping to the south and make it as rich as possible. Set rows three and a half feet apart and plants two feet apart in the row. Plow a furrow and set plants not less than six inches deep. Make no cuttings the first year. As quick as ground is dry enough in spring cultivate over the entire surface, taking care not to go deep enough to disturb the roots.

For family garden set a row along the fence or in a corner with plants about two feet apart.

**Conover Colossal.** More generally planted than any other. The old standard sort.

**Barr's Mammoth.** Very large on good soil.

**Palmetto.** Starts very early and largely used the south for shipping north.

**Columbian Mammoth White.** Shoots clear white and very large. Commands an extra price in all markets.



## PRICE LIST OF PLANTS.

## Strawberries.

These prices are for plants of one variety only. Not less than 12 of any variety of Strawberries will be sold, as less than that number is not sufficient for a fair test. No order accepted for less than \$1.00.

| VARIETIES.                 | For<br>12 | For<br>25 | For<br>50 | For<br>100 | For<br>200 | For<br>300 | For<br>400 | For<br>500 | For<br>1000 |
|----------------------------|-----------|-----------|-----------|------------|------------|------------|------------|------------|-------------|
| Aroma (B).....             | \$0 15    | \$0 20    | \$0 25    | \$0 50     | \$0 75     | \$1 00     | \$1 25     | \$1 50     | \$3 00      |
| Bederwood (B).....         | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Wm. Belt (B).....          | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Bubach (P).....            | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Brunette (B).....          | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Bismark (B).....           | 20        | 25        | 30        | 60         | 95         | 1 25       | 1 50       | 1 75       | 3 50        |
| Brandywine (B).....        | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Belle (B).....             | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Carrie (P).....            | 25        | 35        | 50        | 1 00       | 1 50       | 2 00       | 2 50       | 3 00       | 6 00        |
| Commander (B).....         | 20        | 25        | 30        | 60         | 1 00       | 1 35       | 1 70       | 2 00       | 4 00        |
| Clyde (B).....             | 20        | 25        | 30        | 60         | 95         | 1 25       | 1 50       | 1 75       | 3 50        |
| Crescent (P).....          | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Cumberland (B).....        | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Cobden Queen (P).....      | 20        | 25        | 30        | 60         | 95         | 1 25       | 1 50       | 1 75       | 3 50        |
| Cyclone (B).....           | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Drouth King (P).....       | 20        | 25        | 30        | 60         | 95         | 1 25       | 1 50       | 1 75       | 3 50        |
| Enhance (B).....           | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Epping (P).....            | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Excelsior (B).....         | 50        | 75        | 1 00      | 2 00       |            |            |            |            |             |
| Enormous (P).....          | 20        | 25        | 30        | 60         | 1 00       | 1 35       | 1 70       | 2 00       | 4 00        |
| Earliest (B).....          | 25        | 35        | 50        | 1 00       | 1 50       | 2 00       | 2 50       | 3 00       | 6 00        |
| Fountain (B).....          | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Gandy (B).....             | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Glenn Mary (B).....        | 20        | 25        | 30        | 60         | 95         | 1 25       | 1 50       | 1 75       | 3 50        |
| Greenville (P).....        | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Henry (P).....             | 50        | 75        | 1 00      | 2 00       |            |            |            |            |             |
| Haverland (P).....         | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Jucunda Imp. (B).....      | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Louis Gauthier (B).....    | 50        | 75        | 1 00      | 2 00       |            |            |            |            |             |
| Lovett (B).....            | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Lady Thompson (B).....     | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Margaret (B).....          | 20        | 25        | 30        | 60         | 1 00       | 1 35       | 1 70       | 2 00       | 4 00        |
| Mexican E (B).....         | 20        | 25        | 30        | 60         | 1 00       | 1 35       | 1 70       | 2 00       | 4 00        |
| Michels Early (B).....     | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Manwell (B).....           | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Michigan (B).....          | 20        | 25        | 30        | 60         | 95         | 1 25       | 1 50       | 1 75       | 3 50        |
| Magoon (B).....            | 20        | 25        | 30        | 60         | 1 00       | 1 35       | 1 70       | 2 00       | 4 00        |
| Marshall (B).....          | 20        | 25        | 30        | 60         | 1 00       | 1 35       | 1 70       | 2 00       | 4 00        |
| Nick Ohmer [B].....        | 25        | 30        | 35        | 70         | 1 20       | 1 65       | 2 10       | 2 50       | 5 00        |
| Ocean City [B].....        | 20        | 25        | 30        | 60         | 95         | 1 25       | 1 50       | 1 75       | 3 50        |
| Oregon Ever. [B].....      | 20        | 25        | 30        | 60         |            |            |            |            |             |
| Parker Earle [B].....      | 20        | 25        | 30        | 60         | 95         | 1 25       | 1 50       | 1 75       | 3 50        |
| Ridgeway [B].....          | 20        | 25        | 30        | 60         | 1 00       | 1 35       | 1 70       | 2 00       | 4 00        |
| Ruby [B].....              | 20        | 25        | 30        | 60         | 1 00       | 1 35       | 1 70       | 2 00       | 4 00        |
| Staples [B].....           | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Sunnyside [P].....         | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Splendid [B].....          | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Sample [P].....            | 1 00      | 1 75      | 3 00      | 6 00       |            |            |            |            |             |
| Star [B].....              | 25        | 35        | 50        | 1 00       |            |            |            |            |             |
| Seaford [P].....           | 25        | 35        | 50        | 1 00       | 1 50       | 2 00       | 2 50       | 3 00       | 6 00        |
| Tennessee Prolife [B]..... | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Tennyson [B].....          | 20        | 30        | 40        | 75         |            |            |            |            |             |
| Tubbs [B].....             | 20        | 25        | 30        | 60         | 1 00       | 1 35       | 1 70       | 2 00       | 4 00        |
| Warfield [P].....          | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Wolverton [B].....         | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |
| Wilson's Albany [B].....   | 15        | 20        | 25        | 50         | 75         | 1 00       | 1 25       | 1 50       | 3 00        |

## Black Raspberries.

| VARIETIES          | For<br>Each | For<br>6 | For<br>12 | For<br>25 | For<br>50 | For<br>100 | For<br>200 | For<br>300 | For<br>400 | For<br>500 | For<br>1000 |
|--------------------|-------------|----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|-------------|
| Black Diamond, 35c | \$1 50      | \$3 00   | \$4 50    | \$7 50    | \$15 00   |            |            |            |            |            |             |
| Eureka             | 20          | 35       | 50        | 75        | 1 50      | 2 15       | 2 45       | 3 00       | 3 50       | 7 00       | 7 00        |
| Conrath            | 20          | 30       | 45        | 65        | 1 25      | 1 90       | 2 45       | 3 00       | 3 50       | 7 00       | 7 00        |
| Columbian          | 20          | 35       | 50        | 75        | 1 50      | 2 15       | 2 80       | 3 40       | 4 00       | 8 00       | 8 00        |
| ult                | 20          | 35       | 50        | 75        | 1 50      | 2 15       | 2 80       | 3 40       | 4 00       | 8 00       | 8 00        |
| egg                | 20          | 30       | 45        | 65        | 1 25      | 1 90       | 2 45       | 3 00       | 3 50       | 7 00       | 7 00        |
| Johnson Sweet      | 20          | 30       | 45        | 65        | 1 25      | 1 90       | 2 45       | 3 00       | 3 50       | 7 00       | 7 00        |
| Kanse              | 20          | 30       | 45        | 65        | 1 25      | 1 90       | 2 45       | 3 00       | 3 50       | 7 00       | 7 00        |
| Older              | 20          | 30       | 45        | 65        | 1 25      | 1 90       | 2 45       | 3 00       | 3 50       | 7 00       | 7 00        |
| Palmer             | 20          | 30       | 45        | 65        | 1 25      | 1 90       | 2 45       | 3 00       | 3 50       | 7 00       | 7 00        |



### Red Raspberries.

| VARIETIES    | For<br>6 | For<br>12 | For<br>25 | For<br>50 | For<br>100 | For<br>200 | For<br>300 | For<br>400 | For<br>500 | For<br>1000 |
|--------------|----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|-------------|
| Cuthbert     | \$ 20    | \$ 30     | \$ 45     | \$ 65     | \$ 1 25    | \$ 1 90    | \$ 2 45    | \$ 3 00    | \$ 3 50    | \$ 7 00     |
| Golden Queen | 20       | 30        | 45        | 65        | 1 25       | 1 90       | 2 45       | 3 00       | 3 50       | 7 00        |
| Loudon       | 25       | 40        | 60        | 85        | 1 60       | 2 60       | 3 50       | 4 30       | 5 00       | 10 00       |
| Miller       | 20       | 35        | 50        | 75        | 1 50       | 2 15       | 2 80       | 3 40       | 4 00       | 8 00        |
| Marlboro     | 20       | 30        | 45        | 65        | 1 25       | 1 90       | 2 45       | 3 00       | 3 50       | 7 00        |

### Blackberries.

| VARIETIES                | For<br>6 | For<br>12 | For<br>25 | For<br>50 | For<br>100 | For<br>200 | For<br>300 | For<br>400 | For<br>500 | For<br>1000 |
|--------------------------|----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|-------------|
| Western Triumph, 1 year  | \$ 25    | \$ 40     | \$ 60     | \$ 75     | \$ 1 50    | \$ 2 50    | \$ 3 25    | \$ 3 90    | \$ 4 50    | \$ 9 00     |
| Western Triumph, 2 years | 30       | 50        | 75        | 1 00      | 2 00       | 3 00       | 4 00       | 5 00       | 6 00       | 12 00       |
| Taylor Prolific, 1 year  | 25       | 40        | 60        | 75        | 1 50       | 2 50       | 3 25       | 3 90       | 4 50       | 9 00        |
| Taylor Prolific, 2 years | 30       | 50        | 75        | 1 00      | 2 00       | 3 00       | 4 00       | 5 00       | 6 00       | 12 00       |
| Snyder, 1 year           | 25       | 40        | 60        | 75        | 1 50       | 2 50       | 3 25       | 3 90       | 4 50       | 9 00        |
| Snyder, 2 years          | 30       | 50        | 75        | 1 00      | 2 00       | 3 00       | 4 00       | 5 00       | 6 00       | 12 00       |
| Ancient Briton, 1 year   | 25       | 40        | 60        | 75        | 1 50       | 2 50       | 3 25       | 3 90       | 4 50       | 9 00        |
| Ancient Briton, 2 years  | 30       | 50        | 75        | 1 00      | 2 00       | 3 00       | 4 00       | 5 00       | 6 00       | 12 00       |
| Early Harvest, 1 year    | 25       | 40        | 60        | 75        | 1 50       | 2 50       | 3 25       | 3 90       | 4 50       | 9 00        |
| Early Harvest, 2 years   | 30       | 50        | 75        | 1 00      | 2 00       | 3 00       | 4 00       | 5 00       | 6 00       | 12 00       |
| Eldorado, 1 year         | 30       | 50        | 75        | 1 00      | 2 00       | 3 00       | 4 00       | 5 00       | 6 00       | 12 00       |
| Eldorado, 2 years        | 35       | 60        | 90        | 1 25      | 2 50       | 4 25       | 5 50       | 6 50       | 7 50       | 15 00       |

### Dewberries.

| VARIETIES         | For<br>6 | For<br>12 | For<br>25 | For<br>50 | For<br>100 | For<br>200 | For<br>300 | For<br>400 | For<br>500 | For<br>1000 |
|-------------------|----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|-------------|
| Lucretia          | 25       | 40        | 60        | 75        | 1 50       | 2 50       | 3 25       | 3 90       | 4 50       | 9 00        |
| Austin's Improved | 35       | 60        | 90        | 1 25      | 2 50       | 4 25       | 5 50       | 6 50       | 7 50       | 15 00       |

### Currants.

| VARIETIES     | For<br>6 | For<br>12 | For<br>25 | For<br>50 | For<br>100 |
|---------------|----------|-----------|-----------|-----------|------------|
| London Market | \$ 40    | \$ 75     | \$ 1 50   | \$ 2 50   | \$ 5 00    |
| Fay           | 50       | 1 00      | 2 00      | 3 00      | 6 00       |
| Victoria      | 40       | 60        | 1 00      | 2 00      | 4 00       |
| Cherry        | 40       | 60        | 1 00      | 2 00      | 4 00       |

### Red Grapes.

| VARIETIES         | Each  | For<br>6 | For<br>12 | For<br>25 | For<br>50 | For<br>100 |
|-------------------|-------|----------|-----------|-----------|-----------|------------|
| Delaware, 1 yr.   | \$ 15 | \$ 60    | \$ 1 00   | \$ 1 60   | \$ 2 50   | \$ 5 00    |
| Delaware, 2 yrs.  | 20    | 75       | 1 25      | 2 00      | 3 00      | 6 00       |
| Agawam, 1 yr.     | 15    | 60       | 1 00      | 1 60      | 2 50      | 5 00       |
| Agawam, 2 yrs.    | 20    | 75       | 1 25      | 2 00      | 3 00      | 6 00       |
| Lindley, 1 year   | 15    | 60       | 1 00      | 1 60      | 2 50      | 5 00       |
| Lindley, 2 years  | 20    | 75       | 1 25      | 2 00      | 3 00      | 6 00       |
| Brighton, 1 yr.   | 15    | 60       | 1 00      | 1 60      | 2 50      | 5 00       |
| Brighton, 2 yrs.  | 20    | 75       | 1 25      | 2 00      | 3 00      | 6 00       |
| Jefferson, 1 yr.  | 20    | 75       | 1 25      | 2 00      | 3 00      | 6 00       |
| Jefferson, 2 yrs. | 25    | 90       | 1 50      | 2 50      | 4 00      | 8 00       |
| Moyer, 1 year     | 20    | 75       | 1 25      | 2 00      | 3 00      | 6 00       |
| Moyer, 2 years    | 25    | 90       | 1 50      | 2 50      | 4 00      | 8 00       |
| Wyoming, 1 year   | 20    | 75       | 1 25      | 2 00      | 3 00      | 6 00       |
| Wyoming, 2 years  | 25    | 90       | 1 50      | 2 50      | 4 00      | 8 00       |
| Salem, 1 year     | 20    | 75       | 1 25      | 2 00      | 3 00      | 6 00       |
| Salem, 2 years    | 25    | 90       | 1 50      | 2 50      | 4 00      | 8 00       |
| Paughkeep- } 1 yr | 25    | 1 00     | 2 00      | 3 00      | 5 00      | 10 00      |
| sie Red } 2 yrs   | 30    | 1 50     | 2 50      | 4 50      | 7 50      | 15 00      |

### Gooseberries.

| VARIETIES         | Each  | For<br>6 | For<br>12 | For<br>25 | For<br>50 | For<br>100 |
|-------------------|-------|----------|-----------|-----------|-----------|------------|
| Smith's } 1 yr    | \$ 15 | \$ 60    | \$ 1 00   | \$ 1 75   | \$ 3 50   | \$ 7 00    |
| Improved } 2 yrs. | 20    | 1 00     | 1 50      | 2 50      | 4 50      | 9 00       |
| Downing, 1 yr.    | 15    | 50       | 1 00      | 1 75      | 3 00      | 6 00       |
| Downing, 2 yrs.   | 20    | 75       | 1 25      | 2 25      | 4 00      | 8 00       |
| Houghton, 1 yr.   | 10    | 40       | 75        | 1 25      | 2 50      | 5 00       |
| Houghton, 2 yrs.  | 15    | 60       | 1 00      | 1 75      | 3 00      | 6 00       |

### Black Grapes.

| VARIETIES         | Each  | For<br>6 | For<br>12 | For<br>25 | For<br>50 | For<br>100 |
|-------------------|-------|----------|-----------|-----------|-----------|------------|
| Concord, 1 yr.    | \$ 10 | 40       | 75        | 1 15      | 1 75      | 3 50       |
| Concord, 2 yrs.   | 15    | 60       | 1 00      | 1 60      | 2 50      | 5 00       |
| Worden, 1 year    | 10    | 40       | 75        | 1 15      | 1 75      | 3 50       |
| Worden, 2 years   | 15    | 60       | 1 00      | 1 60      | 2 50      | 5 00       |
| Moore's } 1 year  | 10    | 40       | 75        | 1 15      | 1 75      | 3 50       |
| Early } 2 years   | 15    | 60       | 1 00      | 1 60      | 2 50      | 5 00       |
| Talman or } 1 yr. | 10    | 40       | 75        | 1 15      | 1 75      | 3 50       |
| Champion } 2 yrs. | 15    | 60       | 1 00      | 1 60      | 2 50      | 5 00       |
| Wilden, 1 year    | 15    | 60       | 1 00      | 1 60      | 2 50      | 5 00       |
| Wilden, 2 years   | 25    | 90       | 1 50      | 2 50      | 4 00      | 8 00       |
| Early } 1 year    | 25    | 1 50     | 2 50      | 4 00      | 7 50      | 15 00      |
| Ohio } 2 years    | 35    | 2 00     | 3 50      | 6 50      | 12 50     | 25 00      |
| Hosford, 1 year   | 25    | 1 50     | 2 50      | 4 00      | 7 50      | 15 00      |
| Hosford, 2 years  | 35    | 2 00     | 3 50      | 6 50      | 12 50     | 25 00      |

### White Grapes.

| VARIETIES         | Each  | For<br>6 | For<br>12 | For<br>25 | For<br>50 | For<br>100 |
|-------------------|-------|----------|-----------|-----------|-----------|------------|
| Niagara, 1 year   | \$ 15 | \$ 60    | \$ 1 00   | \$ 1 60   | \$ 2 50   | \$ 5 00    |
| Niagara, 2 years  | 20    | 75       | 1 25      | 2 00      | 3 00      | 6 00       |
| Moore's } 1 year  | 25    | 90       | 1 50      | 2 50      | 4 00      | 8 00       |
| Diamond } 2 years | 30    | 1 00     | 2 00      | 3 00      | 5 00      | 10 00      |

### Asparagus.

| VARIETIES               | For<br>100 | For<br>1000 |
|-------------------------|------------|-------------|
| Conover Colossal        | \$ 1 00    | \$ 4 00     |
| Barr's Mammoth          | 1 00       | 4 00        |
| Palmetto                | 1 00       | 4 00        |
| Columbian Mammoth White | 1 50       | 5 00        |

# FREE PLANTS

Patrons who send orders as specified below may select, in addition to their orders, free plants as follows:

With orders of Ten Dollars or over, five per cent additional in plants free.

With orders of Twenty Dollars or over, ten per cent additional in plants free.

With orders of Fifty Dollars or over, fifteen per cent additional in plants free.

To secure these Free plants the order must be for the full amount specified and the percentage may be added in plants. It is not a discount but a premium on large orders.



.....1899.

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## THE FOLLOWING LETTERS

Are but Samples of Many Hundreds Received from Correspondents.

*Dr. R. C. Kedzie, Agricultural College Mich.:*—I have read with interest your article in Michigan Fruit Grower on Plant Breeding and quote a significant sentence: "The growth of fruit then depends on the vigor and potency of the pollen." To my mind there is a world of meaning in that phrase and I think fruit growers have overlooked the quality of the pollen as a controlling influence in fruit growing.

*P. R. Bailey, O'Brien Co., Iowa:*—My plants made a splendid growth and I have the finest plants in North West Iowa. My berries were the wonder of the country and people came for miles to see and buy them. I had a ready sale at my own door at 12½ cents per quart. I grew them in hills, many berries measured over six inches in circumference. The man who follows your advice is bound to succeed. The gooseberries I got of you are simply immense. I turn away traveling tree agents every day who are gulling the people by selling them worthless plants. The ones who get bit by them wonder how I grow such fruit.

*A. D. Alkire, Manard Co., Ill.:*—I ordered a lot of strawberry, raspberry and blackberry plants of you in the spring of 1896. They made a most vigorous growth and the berries were the finest that have ever been grown in this county. Several of my neighbors who saw them will order of you this spring.

*Theo. Bender, Bayfield county, Wis.:*—The best tool that I have and prize the most is the Perfection Plant Setter that I bought of you last year. The plants that I took out of my field and set with it never stopped growing but grew as if they had not been transplanted.

*Geo. Hollingshead, Ottawa Co., Ohio:*—I have received from two to three cents per quart more from my strawberries this season than any other grower in this locality, and have not been able to fill the demand. The raspberries I got of you bore an enormous crop. The Columbian is the greatest grower I ever saw.

*W. F. Brown, Boone Co., Iowa:*—The strawberries you sent me were the best I ever saw and in bearing surpassed my expectation. I was able last season to hold the market for strawberries, receiving ten cents per quart while other home grown berries sold for much less and shipped berries sold for half that amount. One-eighth acre yielded Two Hundred and Three Dollars.

*A. C. Lee, Van Buren Co., Iowa:*—I am taking the cake in our place for berries. While other berries are selling four or five boxes for twenty-five cents my Warfields, Haverlands and Greenvilles are selling at three boxes for 25 cents and go at sight.

*C. V. Hartough, Fulton Co., Ill.:*—My berries are just simply immense. All that see them say they are the largest berries they ever saw. They are all engaged and more if I had them at ten cents per quart. I find it as you say—I don't have to drum up trade. They come and take all I have from the wagon and engage the next picking.

*Geo. Metzger, Jr., Cameron Co., Penn.:*—We will have good Two Hundred bushels for our first picking from the Seven Thousand plants bought of you (about an acre) and we have contracted the entire crop at 8 cents a quart delivered in the town here.

*A. J. Smith, Hancock Co., Ohio:*—The plants came quickly and in first-class shape. I was much pleased with them and the careful manner in which they were packed. They had fine roots and all grew and produced a great crop of the finest berries I ever saw. Some were as large as hen's eggs. My neighbors said they never saw such berries.

*P. C. Davis, Fall River Co., S. D.:*—Mr. Billipps of this place says your strawberry plants are the finest he ever saw and he has ordered several thousand of you, but last spring he ordered some cheaper ones and has been black and blue all summer where he has kicked himself.

*A. L. Jordan, Pulaski Co., Va.:*—The blackberries and raspberries I purchased of you last season made a fine growth and I received a lot of choice fruit from them this year. The asparagus did splendid. I am greatly pleased with all the fruit I ever bought of you.

*Peter Flory, Medina Co., Ohio:*—My six plants of Columbian raspberries received of you have canes an inch in diameter. We picked a bushel of berries from those six plants. The other plants did equally well.

*H. H. Connell, Poweshiek Co., Iowa:*—The Three Hundred plants I received from you in 1896 I set on twelve square rods of land. Last spring we gathered Three Hundred and fifty quarts from the patch and they were the finest berries ever put on our market.

*T. C. Shawver, Clinton Co., Iowa:*—Three years ago I planted out a plat of strawberries and grew them in hedge row. The berries were the finest in the county and sold readily at from twelve to fifteen cents per quart and will bear another immense crop.

*James I. Essick, Chester county, Penn.:*—Fruit grown from your stock was the finest which went into this market but I did not have near enough to supply the demand. Some customers would not wait until I came for fear they would be left, but drove over here so as to be sure of getting them. Nothing but R. M. Kellogg's plants will do for me. My neighbors buy of other parties because they get them a little cheaper. I saw one man setting plants last spring you could not hire me to set.

*J. A. Harris, Greene county, Mo.:*—In justice to you I can say I never saw finer plants or in better condition than those received last spring. I did not lose one plant out of the lot. I shall have a great crop of fruit.

*Valentine Porter, Pulaski county, Mo.:*—I have had your plants at different times and they were first-class in every respect. I can recommend them first, last and all the time. You have done more for berry culture than any ten men in the country.

*Alvin Barton, Belmont county, Ohio:*—The plants received from you last spring made the best growth of any in the township. Dry weather set in in July. We had no rain until in October but my plants were so vigorous they never stopped growing.

*J. F. Petrie, Jefferson county, N. Y.:*—The blackberries I bought of you last spring made three times the growth of those ordered from a New York firm.

*Geo. C. Rogers, Hillsboro county, N. H.:*—I received one of your books but cannot class it with common fruit catalogues for it is uncommon and if I could have had my choice of the book or a five dollar note, I would rather have your "Big little book."

*J. B. Townsend, Scott county, Iowa:*—I gave Mr. Chas. Law your address and told him of my remarkable success with plants received from you last year. Notwithstanding the terrible dry season I lost not a single plant. My berries were simply immense.

*G. M. Watson, Knox county, Ill.:*—The patch fruiting from plants shipped by you in April 1897, gave the best berries in this locality, so that I easily wholesaled all at regular retail rates, getting cash and not being able to supply nearly all the demand.

*M. E. Fassett, Wyoming county, Penn.:*—I have learned more common sense from your book than all the rest I ever read put together.

*W. W. Johnston, M. D., Cass county, Mo.:*—I think you will have a large trade in this vicinity as I have demonstrated the value of your system of propagation in growing 11½ bushels of the finest berries on a plat twenty-three by seventy feet. I have started the ball rolling. Find two orders enclosed.

*G. W. McKallip, Brown county, Kas.:*—From two hundred plants bought of you in the spring of 1896 I picked last season between nine and ten bushels of berries. (Nearly a quart and a half to a plant.)

*Geo. L. Farinash, Marion county, Ind.:*—You have revolutionized small fruit growing. My immense crop of the biggest berries ever seen on the market proves the assertion. In the future I shall never set a plant without knowing its pedigree.

*F. T. Prindle & Son, Herkimer county, New York:*—I have not had time before to write you that your plant setter is a perfect tool. There is no way that you can set plants so fast and do it as well; at least we found it so after testing it thoroughly.



## ...NOTICE TO PATRONS...

The plants herein offered are propagated from PURE PEDIGREE STOCK and ideal plants, as explained in the chapters on "Improvement of Plants." I am confident they are the only plants obtainable propagated in this manner, and that their fruiting vigor cannot be equalled. While I practice the highest cultivation I know how to give, I have demonstrated that the vigor of my plants has been the basis of my success. By all means start a propagating bed this season.

### Orders Must Amount to One Dollar.

The correspondence, postage, booking and filling orders for less than that amount is done at a loss.

### Taking Up Strawberry Plants.

The whole row of plants is taken up, and all those poorly rooted are thrown out. The fork used for the purpose is so constructed that plants are not bruised or roots broken off. All dead leaves and stems are picked off and roots straightened by such a system that from the time they leave the ground until they are ready for shipment they are not exposed a half minute altogether.

### Substitution.

We desire to furnish each customer exactly what he orders, but some times find the variety all sold before his order is reached, all orders being filled in the order in which they are received and booked. If no substitution is permitted we are obliged to disappoint the customer by returning the money late in the season. There are several varieties in the same season and of equal value, and if we are out of the variety ordered and substitution is permitted, we will add 10 per cent. to the plants substituted. Unless you expressly state "NO SUBSTITUTION," we will understand you desire your order filled as above stated. There is very little danger of not getting the varieties desired, if orders are sent in early.

### Price of Plants.

The prices quoted are net, and the lowest at which they can be grown and placed on the market. This list abrogates all former price lists. No charge will be made for packing, crates or boxes, and delivery to forwarders. No plants sold for fall planting. Not less than one dozen strawberry plants will be sold; it requires that number for a fair trial.

### No Discounts and no Agents.

In view of the fact that so many tree dealers and agents have used my catalogue, and represented themselves as my agents, and then delivered cheap plants from other nurserymen, thus greatly injuring my reputation, I am forced to announce that I do not accept orders from agents. No other nurseryman in this country propagates plants by my method, so when an agent represents he is selling pedigree stock, it will be safe to give him the go by.

### Terms

strictly cash with order. Orders are not booked unless one-third the amount is remitted, and balance before shipment. Plants will be sent C. O. D., if one-third is remitted with orders. Return charges will be added to C. O. D.

### Order Early.

All orders are filled in the order in which they are received, hence the earlier they are sent in the better.

### How to Remit.

Send money by postoffice order, bank draft, express order or registered letter. I cannot be responsible for money sent loose in a letter. When private checks are sent add 15 cents to cover cost of collection.

### References.

You can get my commercial credit and standing at any bank, factory or store using R. G. Dunn & Co's, or Bradstreet's commercial reports; or write to First National Bank, postmaster, agents American and United States Express Companies, Three Rivers, Mich.

### Plants by Mail.

Plants are packed with spagnum moss, oiled manilla paper, with leaves exposed, so they will go safely to any part of the United States for one cent for each two ounces (or eight cents per pound), and to Canada at one cent per ounce. We send plants as far east as Nova Scotia, and west to British Columbia with entire success.

### Postage.

Postage on plants is as follows and must be sent in addition to price of plants. Strawberries 5 cents per dozen, 25 cents per hundred. Strawberry plants cannot be sent by mail at thousand rates. Raspberries, Blackberries, Grapes, Asparagus, Currants and Gooseberries, 10 cents per dozen, 50 cents per 100. Two year plants are too large to be sent by mail.

### Express Rates.

Express charges are twenty per cent. less than general merchandise to any part of the country. All small orders are generally cheaper by express than freight as only pound rates are charged while railroads charge for 100 pounds without regard to weight when sent by freight.

### Freight.

We urge customers to send in their large orders early and have them sent by freight to all points having good connection with Chicago, St. Louis, Indianapolis, Cincinnati, Detroit, Toledo, Cleveland, Buffalo, Kansas City, Omaha and Saint Paul. Plants leaving here at six o'clock in the evening arrive in Chicago, Toledo, Cleveland, or Detroit the same night and are immediately started in fast through freights to above cities and intermediate points. Plants can only be sent by freight when they are dormant. Generally before April 20. We sent large orders to Montana, Colorado, and other equally distant points, with entire success last year. Freight rates are very low and they generally go through on time, but sometimes delays occur but we have tracers sent promptly when notified that they fail to arrive on time. Courts hold that property in transit belongs to consignee, and railroad and express companies are responsible and must pay for perishable goods spoiled by undue delay in shipment. If no shipping directions are given we use our best judgment without assuming any responsibility.

### Guarantee of Genuineness.

The plants being propagated in special beds and labeled when taken up, would seem to preclude the possibility of mistake, and I guarantee plants true to label, with express understanding that if a mistake happens to be made, I am not to be held for any damages beyond the amount received for the plants.

### Guaranteeing Results.

We send plants to the most distant states with entire success, to anybody and everybody who order them. I am exceedingly anxious that they shall meet their highest expectations, and to this end will do all in my power to contribute to success. But after they are delivered to express companies or railroads, they belong to the purchasers and I have no control over them. I do not know what treatment they are to receive, hence you can readily see why I can not, and do not, guarantee any results whatever. My responsibility ceases when delivered to express or railroad.

### Orders Are Acknowledged

as soon as received. If you do not hear from us after a reasonable time, write again.

NOTICE!

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See "Irrigation" on page 8.